JPRS-TEN-94-007
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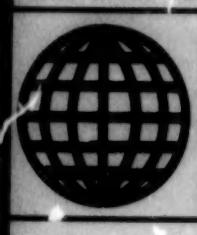

JPRS Report

Environmental Issues

Environmental Issues

JPRS-TEN-94-007 *15 March 1994*

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Environmental Report Roundup 24 Jan-12 Feb

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[Editorial Report] The following is a roundup of recent environmental reports monitored from media in FBIS Abidjan Bureau and EAU coverage areas from 24 January to 7 February.

GHANA

Accra Ghana Broadcasting Corporation Radio Network in English at 2000 GMT on 24 January reports that a four-day international seminar on forest land use, its conflicts and solutions in Ghana and Africa, is under way in Kumasi. It is being organized by the British Council in conjunction with the Ministries of Environment and Land and Forestry as well as some associations. According to a world report on environment "17 million hectares of tropical forests are lost every year, while in Ghana a considerable amount of the country's forest is lost." This is due to the continued demand for new agricultural land for food and cash crops, the excessive logging and the high incidence of uncontrolable bush fire.

Accra Ghana Broadcasting Corporation Radio Network in English at 2000 GMT on 25 January reports that the Ofinso District agro-forestry officer recently advised farmers there to take agro-forestry seriously in order to help prevent soil erosion and replenish its fertility. The announcer says that the officer, who was speaking after a training trip organized for 25 farmers, also "advised them to control the spread of bush fires and to stop the illegal burning of forest." The announcer further says that at Cape Coast, the Central Regional forestry officer " called for police protection and cooperation to stop the illegal felling of trees by some timber contractors and chainsaw operators in the region."

Accra Ghana Broadcasting Corporation Radio Network in English at 1300 GMT on 2 February reports that about 40 representatives of member churches of the Christian Council of Ghana have begun a five-day workshop in Accra to evolve strategies to tackle issues of development and environment. The workshop will be followed by another in the north, culminating in a national one on the role of the Churches in national development. A consultant to the Christian Council, who opened the workshop say: "The churches can play a meaning role in development if they have a sound economic base." The director of development and environment department of the Christian Council of Ghana say: "The time has come for the churches to pay greater attention to environmental degradation."

KENYA

Nairobi KNA in English at 1700 GMT on 1 February in a Nairobi-datelined item reports the Kenya Government will not implement the second phase of the Kenya Indigenous Forests Conservation (KIFCON) program funded by the ODA [expansion unknown] because three out of the 11 conditions attached to the renewal of the phase were unacceptable to the government.

Minister John Sambu for environment and natural resources told a press conference in his office today that the insistance of KIFCON that forests should be managed by private organizations and NGOs was contrary to stipulations of the Forest Act Cap. 385 and the government could not bear with it.

Mr. Sambu said that the government would also not accept a suggestion that local communities be allowed to cultivate and graze their livestock in the forests as the activities were banned by the government in 1988 as a result of misuse. Restating the government's policy on conservation of forests, the minister said the government's forest conservation strategies over the years had been to sensitize the local community's attachment to the indigenous forest among other policies.

He maintained that the government welcomed support from donors with acceptable conditions and left the matter of KIFCON with ODA to reconsider its stand. Mr. Sambu further disclosed that out of 50.5 million shillings owed to the government by forest licencees by December 1992, 29 million shillings had been recovered by November last year (1993), following the government's threat to suspend their operations. He denied that the government intends to write off the debts as reported in the local press.

MALI

Bamako Radiodiffusion-Television du Mali Radio in French at 2000 GMT on 26 January reports that the council of ministers met on 26 January and adopted a bill and a draft decree ratifying the convention on biologic diversity signed in Rio de Janeiro on 12 June 1992.

NIGERIA

Paris AFP in English at 1409 GMT on 1 February in a Lagos- datelined item reports community representatives from Nigeria's southern Delta State have told a government committee of their fears of health risks arising from oil prospection and production, THE GUARDIAN newspaper reported on 1 February.

The alarm was raised Monday by delegates from the Urhobo, Isekiri and Ijaw communities at a meeting with a ministerial team set up by General Sani Abacha's military regime to look into their grievances.

The people of Delta state, the nation's largest producer of oil, have become exposed to the hazards of oil exploration and related activities by local and foreign companies, they said. The delegates added that most rivers in the region have been shown to be polluted with mercury and lead. "There is abundant evidence that the disease pattern of the Urhobo population has changed from the traditional malaria and pneumonia to diseases of the respiratory tract, central nervous system as well as blood system", one community leader stated.

High temperatures associated with gas flaring have killed local vegetation and rendered land unproductive for crops, they claimed. The communities have already complained about the unfair distribution of oil revenues, which contribute more than 90 percent of Nigeria's annual income, the independent newspaper said.

The government team includes Don Etiebet, Alex Ibru and Melford Okilo, respectively ministers of petroleum resources, internal affairs and commerce, who are all from oil-producing southern states.

In protest at what they consider as political marginalisation, environmental damage and economic strangulation some residents of Delta State and neighbouring Rivers State have stopped some oil companies from operating and destroyed schools, hospitals and other buildings, a spokesman for one foreign oil company told AFP.

Dakar PANA in English at 1515 GMT on 7 February in a Lagos-datelined item reports an international workshop on the environment and sustainable development opened here on 7 February with participants urging an integrated solution to the global problem.

In a keynote address, Rasheed Saba, of Nigeria's Federal Environmental Protection Agency (FEPA), said that poverty, debt burden, and other problems facing the developing countries must be addressed for environmental protection to be meaningful. "Where a people are hungry, homeless and hopeless, you do not expect them to protect the environment," said Saba.

He called for a "multi-disciplinary process on education and environmental awareness at all levels", capacity-building in the developing nations, and a "bottom-up and participatory approach". The environmental expert warned that sustainable development should not be left at the mercy of economic indicators.

He urged the industrialised north to abandon their "wasteful consumption pattern." According to him, "25 percent of the world's rich consume close to 85 percent of the resources and produce some 90 percent of the waste". He said that "southern governments and their elites are their peoples worst enemies."

Maurice Sheridan of the U.K.-based Foundation for International Environmental Law and Development, FIELD, said the global endorsement of the Rio Declaration and other treaties should be backed by concrete action. The week-long workshop is being sponsored by the British Council in Nigeria and the Nigerian Institute of Advanced Legal Studies. Topics to be discussed include "Human Rights and the Environment", "Access to Environmental Justice", "Environmental Protection and the Transfer of Technology", and the "Role of NGO's in Achieving Sustainable Development".

Lagos Radio Nigeria Network in English at 0600 GMT on 27 January reports that the Federal Government has announced the appointment of Dr. Evans Aina as the director general of the reformed Federal Environmental Protection Agency. A statement on the appointment was signed by the secretary to the government of the Federation, Alhaji Aminu Saleh.

Lagos Radio Nigeria Network in English at 1800 GMT on 1 February reports that Alhaji Dabo Aliyu, administrator of Yobe State, has called for pedology assistance in tackling ecological problems. He made the appeal while receiving a team of military officers from the Commandant Staff College, Jaji, who were on study tour of the state. The administrator explained that the menace of environmental degradation affects the socioeconomic life of the people, adding that drought, desertification, and deforestation affect the agricultural production of the communities in the state. He also said that the damming activities in Bauchi, Kano, and Jigawa states have cost about 45 percent of the water flow along River Yobe, adding that most of the lands cultivated for rice, wheat, and irrigation farming has been dried up.

Lagos Radio Nigeria Network in English at 0600 GMT 11 February reports that Lieutenant Colonel Muhammed Onunka, military administrator of Edo State, has announced guidelines designed to sustain the exploitation of forest resources. He said at a meeting with saw millers in Benin-City that indiscriminate exploitation of forest resources was endangering the world famous species of trees. He announced that it is now mandatory for timber contractors to replenish cleared parts of the forests and to pay royalties directly to affected communities.

Lagos Voice of Nigeria in English at 1030 GMT 12 February announces that Alhaji Malam Adamu Ciroma, minister of agriculture and natural resources, has inaugurated a national advisory council and a technical committee to oversee the implementation of the tropical forests action program aimed at addressing the problems of deforestation in the country. Speaking at the ceremony in Abuja, Minister Ciroma stated that the problem of deforestation had become more poignant with the absence of a plan to replenish the forests. He said that the council would advise the government on the program, ensure commitment to its implementation, and establish interministerial or intersectorial mechanism at field level.

TANZANIA

Dar es Salaam Radio Tanzania Network in Swahili at 1300 GMT 25 January reports John Malecela, the prime minister and first vice president, has stressed the government's stand that Tanzania has no agreement and will not enter into any agreement with any country making it a dump for toxic waste.

Responding to a supplementary question in Parliament, Malecela assured parliamentarians and citizens in general that the Government of Tanzania has not allowed and will not permit the country to be turned into a dump for such toxic waste. He asserted that to date there was no evidence whatsoever that such a situation had ever emerged in the country. Malecela said that if any MP or citizen could procure or had full evidence of entry of such waste into the country, he could present such claims to his office, and that it was not necessary to set up a committee to deal with the issue.

Earlier, it was alleged that a ship called (Felicia) which had anchored at the port of Dar es Salaam was carrying a cargo of toxic waste but it was subsequently proved that the ship was carrying explosives destined for Zambia and Mbeya in the southern part of the country, for use at the cement factory.

UGANDA

Dakar PANA in English at 1504 GMT on 2 February in a Kampala-datelined item states: "The water level in Lake Victoria, Africa's largest, dropped one meter in the month of January 1994, according to Water Development Department of the Ugandan Ministry of National Resources. The director of water development, Patrick Kahangire, attributed the drastic fall to prolonged droughts saying Uganda has not received enough rains in the last three years. He said water levels of major lakes in Uganda have dropped to their lowest for the last 30 years mainly because of insufficient rainfall.

Other lakes including Lake Kyoga in the middle of the country and Lake Wamala in the central region have also

lost a lot of water over the same period. Kahangire was of the opinion that the current situation could be part of the meteorological cycle which repeats itself after a certain period characterised by short periods of heavy rainfall followed by years of drought during which lakes dry up. The manager of the wetland project, Paul Mafabi, recalled that Uganda experienced heavy rains in 1923 followed by years of insufficient rains up to 1961. He said during that time the water levels on Uganda's lakes were very low until the heavy rains of 1962-63 raised the water levels. Since 1964, the lakes have been experiencing a downward trend in water levels, reaching lowest point in January, Kahangire said. Officials of the water development department and the Uganda Freshwater Research Organization (UFRO), agree that the presence of the water hyacinth on Ugandan lakes had accelerated loss of water from lakes through rapid evaporation.

The volume of water in the rivers flowing into some of the lakes had tremendously decreased and in some cases the rivers have dried up, they said. Kahangire said that a further fall in the water levels could affect Uganda's power generation at Jinja Dam, 80 kilometers east of Kampala, the berthing of ships and worsen the concentration of pollutants in the lakes.

Other sources said some water pumping stations in the country had started experiencing difficulties in pumping water because of the receding water line.

State Council Approves Beijing's Development Blueprint

OW0203093494 Beijing XINHUA in English
0756 GMT 2 Mar 94

[Text] Beijing, March 2 (XINHUA)—Approval of the latest Beijing development blueprint by the Chinese State Council has unveiled a vision of a new modern world metropolis at the end of the century.

The State Council stressed the importance of Beijing as the capital of the People's Republic of China and the country's political and cultural center.

The blueprint, published together with the approval by the municipal government last month, maps out the course of the building of the city into a cultural and economic center with first-class public utilities, infrastructure facilities and living environment.

It also calls for important government buildings and cultural institutions to be located in downtown areas, such as along the north-south axis of the city, Chang'an Boulevard and the second ring road.

Buildings relegated to this class include the economic and trade office of the State Council, the Ministries of Foreign Affairs, Communications and Culture, the National Grand Theater and National Women's Center.

According to the city's layout for 1991-2010, the future urban construction will place emphasis on the characteristics of the capital, and on the adjustment of the industrial structures and the use of land.

Start-ups of new heavy industrial plants, especially big power- consumers and those that may cause serious water and air pollution, will no longer be allowed in urban districts. Meanwhile, the existing ones would not be expanded.

The total population of permanent residents in the city will be brought under stricter control, to a limit of 12.5 million by the year 2010.

Air, water, garbage and noise pollution will be reduced drastically in the coming 20 years, with the aim of making Beijing a pollution-free city by the year 2010.

The document stipulates that all environmental quality indices will reach the government's standard in that period.

The city will cut its use of coal greatly in the coming two decades by piping natural gas in from Shaanxi and Gansu Provinces and the Ningxia Hui Autonomous Region in northwest China.

In addition, several hydroelectric power stations will be built to supply heat to most of the urban residents who still use coal for heating.

The emission of exhaust gas will be put under control to further reduce air pollution.

People in Beijing will also be drinking cleaner water, as major reservoirs and underground water sources will be better protected. The city also plans to build 16 new sewage-treatment plants in the next 20 years.

Meanwhile, more trees will be planted, and ecological zones, shelterbelts and parks will be built in the urban areas. By 2010 the total green land will climb to 6,400 ha [hectares] from 3,00 ha at present. The forest coverage will rise to 40 percent.

Officials say that Beijing has achieved major progress in environmental protection over the past few years. So far, some 25 percent of urban sewage is treated before it is discharged into rivers, and the forest coverage rate in the urban areas has reached 30.7 percent.

The document also urges a quickening of the pace of the urban infrastructure modernization drive. The focus will be on the expansion of the city's transportation, including subways, light rail traffic and expressways.

As a city with a long history and serving as the capital of several dynasties, the future construction will also be integrated with the brilliant culture of the nation. Beijing's cultural relics and scenic spots will be better protected, according to the blueprint.

Tibet Leads in Forest Coverage

OW0303072794 Beijing XINHUA in English
0701 GMT 3 Mar 94

[Text] Lhasa, March 3 (XINHUA)—The Tibet Autonomous Region tops all provinces and regions in the stands of timber, a recent survey reveals.

According the results obtained from satellite and land inspection, Tibet has more than two billion sq m [square meters] of timber forests, the biggest in all of China.

About 9.8 percent of the region, or an area of 7.17 million ha [hectares], is covered by trees.

Across its 1.2 million sq km landspace, vast tracts of forests spread across the east and south of the region, while in the west and north is broad grassland.

In addition, the survey shows, most of the region's timber storage is virgin forest.

The survey was conducted jointly by 180 experts from the Ministry of Forestry and the Forestry Department of Tibet over a period of half a year.

Experts say the survey is significant for helping the region work out plans to utilize its rich resources and promote its economy.

They also stressed that forests are "the lungs of the Earth". It is urgent for the local government to take measures to preserve the region's forests, which are important to the world's ecological environment, the experts noted.

International Energy, Water Symposium Opens in Beijing

OW0303123594 Beijing XINHUA in English
1007 GMT 3 Mar 94

[Text] Beijing, Mar 3 (XINHUA)—An international symposium on the Global Energy and Water Circulation Experiment (GEWEX) was held here today at Beijing University.

More than 100 experts and scholars from China, Japan, Russia and other countries and regions attended the meeting.

GEWEX is the largest global environmental science experiment as the turn of the century approaches, and the

experiment in the Asian monsoon area (GAME) has become one of the five largest trans-continental experiments in the world.

Participants in the symposium will exchange scientific information about the progress of GEWEX, discuss relevant international cooperative projects and coordinate the activities of GEWEX and GAME in Asia.

China and Japan have cooperated successfully on the projects over the past few years, especially in the experiments in the northwestern Pacific Ocean, according to Zhao Bolin, an academician of the Chinese Academy of Sciences and a professor of Beijing University.

The two countries will continue their cooperation and conduct intensive observations in the Huaihe River in east China's Anhui Province, he added.

Farmers, Herdsmen Combat Soil Erosion on Ordos Plateau

OW0103165394 Beijing XINHUA in English 0845 GMT 1 Mar 94

[Text] Hohhot, Mar 1 (XINHUA)—Farmers and herdsmen in the Ordos Plateau of north China's Inner Mongolia Autonomous Region are enjoying better environmental conditions owing to effective measures to protect the land from soil erosion.

More than 300,000 farmers and herdsmen have made contracts to fight against soil erosion on the plateau. They have made 1,360 sq [square] km of wasteland, half of the land contracted, green in the past five years. So far more than 33,330 hectares of farmland have been reclaimed, and trees and grass now cover more than 670,000 hectares of plateau lands.

Located on the middle and upper reaches of the Yellow River, the plateau suffers from serious soil erosion. Most of the muddy silt which gives the Yellow River its name comes from the plateau. About 47,000 sq km of land still suffers from serious soil erosion.

But with effective measures taken to protect soil erosion in recent years, less soil is washed into the Yellow River. An annual amount of soil erodes into the river is now five times less than the amount in the 1950s.

Farmers and herdsmen on the plateau pay equal attention to both environmental improvement and economic efficiency while transforming the wasteland. They build up farmland, plant sallow thorns and apple trees in light of soil quality and are developing a farm and sideline products processing industry.

Hebei Launches Major Afforestation Project

OW0103033494 Beijing XINHUA in English 0237 GMT 1 Mar 94

[Text] Shijiazhuang, Mar 1 (XINHUA)—A major green campaign aimed at transforming barren mountains into orchards has been launched in north Hebei Province.

The curtain was lifted on the campaign on last Friday [25 February] when thousands of explosions echoed among the hills of the Taihang Mountains to the west of Shijiazhuang, the provincial capital. The blasting will make it possible to form fields on hill sides.

The vice-director of the city's forestry bureau, Liu Zhanzhong, said that from 25 February to 12 March, nearly a million blastholes of dynamite would be exploded in the mountains.

The vice-director said these blasts would pave the way for the reclaiming of some 13,000 ha of fields, on which 300,000 apple trees could be planted.

Hebei's campaign is only part of the Chinese Government's plan to afforest the Taihang Mountains which run along the border between Shanxi and Hebei.

In the mountain area, poor vegetation has been causing serious erosion, resulting in a rugged terrain and poor water conservancy, which, in turn, poses a fundamental difficulty for the life of local people and their production efforts.

Listed in the "Agenda for the 21st Century" of the Chinese Government, the afforestation of the Taihang Mountains will be one of the largest environmental construction projects ever launched in China.

It is also a critical part of global efforts to improve the earth environment, and will be carried out as an obligation of the Chinese Government to the 1992 United Nations Environment and Development Conference.

In the first year of full-scale operations on this plan, the effort will be concentrated on the development of apple farms, and will feature improved management on the side of the government, the vice-director said.

Besides its effects on the environment, the vice-director said the green campaign would also bring about a remarkable economic return.

The government estimates that in three to five years, these hillside orchards will be making 600 million yuan a year for local farmers.

Sino-Japan Efforts Train Conservation Specialists

OW0103095694 Beijing XINHUA in English 0919 GMT 1 Mar 94

[Text] Beijing, Mar 1 (XINHUA)—More than 130 Chinese specialists on water and soil conservation have been trained through joint efforts by China and Japan over the past three years.

The co-operative training project, jointly funded by the Chinese Ministry of Forestry and the Japan International Co-Operation Agency, started from 1990.

As a main contractor of the project, the Beijing Forestry University built ten computer and soil analysis laboratories in the training center, equipped with advanced instruments costing over 250 million yen provided by Japan.

The center has, ever since its founding, made great achievements in research fields, including forestry hydrology, remote sensing, soil science, water and soil conservation, and natural disaster prediction.

Also included is research into soil erosion control and afforestation on north China's Loess Plateau.

Experimental forests have been planted in north China's Shanxi province over the past few years.

Many of the specialists have now been promoted to leading posts in county-level water and soil conservation departments.

Beijing's Green Coverage Rate Reaches 33.58 Percent

OW0103111494 Beijing XINHUA in English 0844 GMT 1 Mar 94

[Text] Beijing, Mar 1 (XINHUA)—More than one-third of Beijing's landspace has been covered with trees and grass, officials said here today.

At a meeting here today, officials from the municipal government said that Beijing's green coverage rate has reached 33.58 percent due to the efforts of all residents, specially the many outstanding afforestation workers, who were commended at the meeting.

Beijing aims to uplift its green coverage rate by one percent annually to reach 40 percent by 2000, a goal announced by Mayor Li Qiyan last year.

Last year, Beijing enlarged its urban grassland by 541 ha [hectares] and planted trees on some 17,000 ha of mountainous areas. And more trees were planted along roads and around villages.

Fujian Takes 'Effective' Pollution Control Measures

OW0103112994 Beijing XINHUA in English 0816 GMT 1 Mar 94

[Text] Fuzhou, Mar 1 (XINHUA)—Southeast China's Fujian Province has taken effective measures to clean up pollution while boosting its economy.

Last year saw Fujian's gross social product quadruple, fulfilling its goal set for the end of this century seven years ahead of schedule, and its industrial output value rise by 48 percent over the previous year.

According to Yang Mingyi, director of the provincial Environmental Protection Bureau, the province removed, closed down or merged 83 industrial enterprises discharging heavy pollution last year. In addition, it spent more than 50 million yuan on transforming 265 projects.

The bureau approved the building of more than 100 projects, which will install pollution-control facilities and release little pollution upon completion.

To help rural industrial enterprises solve pollution problems, the Environmental Protection Bureau has set up the "Dabao Industrial Pollution Control Center" in Shishi, a boom town in southeast Fujian.

The director noted that Fujian will focus on pollution treatment at 89 key state enterprises and nine units discharging serious pollution this year, while urging overseas-funded and rural industrial enterprises to exert more efforts to clean up pollution.

Shenyang's Air 'Much Clearer' Through Environmental Efforts

OW0103114294 Beijing XINHUA in English 1059 GMT 1 Mar 94

[Text] Shenyang, Mar 1 (XINHUA)—People no longer wear gauze masks in winter in this once pollution-ridden capital of northeast China's Liaoning Province, thanks to years of hard work by the city's environmental departments.

In winter the city used to be enveloped in choking dust and smoke emitted from central heating systems and factories.

From dusk to dawn, in particular, the dust became thicker and thicker. People had to wear gauze masks when they went out, or black dust would pile up around their noses and mouths.

"In the 1970's, my whole head and face were covered with dust whenever I went out for a stroll in the morning," said an old resident who lives in the city's busy Taiyuan Street.

To eliminate contamination sources and fundamentally solve the problem of pollution, the city installed contamination monitors high above the ground. Any unit whose discharge exceeded the standards would be warned or fined.

As a result, departments in the city have been forced to renovate their obsolete heating systems. By the end of last year all the more than 3,000 old-fashioned boilers had been replaced.

Meanwhile, the city has installed modern central heating facilities.

According the city's environmental agency, now 90 central heating zones have been built across the city, covering over 90 percent of heat users.

The old forests of chimneys have disappeared, and the chimneys left no longer emit black soots.

Last year Shenyang reduced its smoke and dust by 10,000 tons.

"The present air is much clearer," said the old resident of Taiyuan Street, where there is only one chimney in an area of 800,000 square meters now. "More and more people step out of their home to do physical exercises in the mornings these days," he said.

Article Describes Environmental Work With Japan

OW2602074894 Beijing XINHUA in English 0644 GMT 26 Feb 94

[Text] Beijing, Feb 26 (XINHUA)—Nongovernmental organizations in China and Japan should make joint efforts for environmental undertakings, according to a signed article in today's "PEOPLE'S DAILY."

The article, authored by Sun Pinghua, former deputy secretary general of the China-Japan Friendship Association, points out that some Japanese non-governmental organizations have been enthusiastic about China's efforts at afforestation, sand control and improving rural living conditions.

China now has more than 66.7 million ha of barren hills and swamps waiting to be greened, and every year large areas of land are engulfed by sand or threatened by flood, drought, hail or mud-rock flows.

Without well-planned, long-term and consistent efforts to improve the environment, China's climate will be affected, as will the climate of China's neighbor, Japan, Sun states.

Since its establishment in 1984, the Green China Fund has been making efforts to enhance domestic afforestation and international cooperation.

Sun says he hopes that Japanese afforestation organizations can have more contacts with the fund so that Japanese friends will be able to support China's greening activities.

The cooperation also requires government involvement, according to Sun. The increased acid rain over Japan have catched [as received] a growing public attention. Some Japanese questioned if it was the result of the untreated coal burning of the Chinese factories.

"To reach the conclusion, proof based on scientific researches is needed," Sun noted, adding that this also calls for the cooperation of both sides.

During the past few years academic seminars have been held between Japanese and Chinese scholars. However, few of them were related to greening and environmental problems.

China To Send Research Team to Arctic in 1995

OW2602172594 Beijing XINHUA in English
1235 GMT 26 Feb 94

[Text] Beijing, Feb 26 (XINHUA)—China plans to send a research team to the Arctic in a year's time, according a scientist in charge of the research program here today.

At the first seminar on Chinese scientific research in the Arctic, Wei Menghua, director of the research preparatory group, said that the team will set off in mid-February, 1995, and is expected to reach the North Pole in early May.

He said the team's priority will be global change research in the Arctic, covering fields such as meteorology, maritime biology, glaciology and environmental science.

The researchers plan to get to the Arctic area via Russia, Wei said, noting that nine out of 11 successful expeditions internationally to the North Pole since 1909 went via Canada.

"It does not make much sense to follow passes others opened, as we are an Asian country and it's the first research team from China to the Arctic," explained Wei.

To ensure success, Wei said, members of the group will undergo simulated training at the end of this year along the Heilongjiang in north China.

According to Wei, the North Pole is ideal for conducting scientific research on space, earth and atmosphere, oceans, and the structure of the earth, especially on global change.

The International Arctic Science Committee, a nongovernmental international organization, was set up in 1991 to encourage cooperation in all aspects of Arctic research. Fourteen countries have so far joined it. Wei said China is going to promote cooperation with these countries through its scientific research.

Aerial Seeding Promotes Afforestation in Gansu Province

OW2302132694 Beijing XINHUA in English
1235 GMT 23 Feb 94

[Text] Lanzhou, Feb 23 (XINHUA)—Aerial seeding has proved a great success in bringing more forests to Northwest China's Gansu Province.

So far, 19 counties of the province have used aerial seeding on 64,667 hectares, and have seen trees grown on 29,300 hectares, including 15 large stretches of forest each with an area of 667 hectares.

With vast areas of arid land and deserts, Gansu only has a forest cover of 3.9 percent, far from the national average of 13.63 percent.

Local governments have worked out regulations and set up more than 30 permanent stations for tree management and protection work in areas to conduct regular aerial seeding, in a bid to guarantee the success of the aerial seeding.

Aerial seeding, which is said to be cheaper than manual afforestation, has not only helped grow more trees for Gansu, but also helped reduce soil erosion by 80 percent, said local officials, adding that they will grow more trees on more land by way of aerial seeding in the coming years.

Tibet Makes Progress in Afforestation

OW0803085494 Beijing XINHUA in English
0743 GMT 8 Mar 94

[Text] Lhasa, Mar 8 (XINHUA)—Southwest China's Tibet Autonomous Region has over the past few years stepped up its "green drive", to improve the stock-raising ecological environment.

By now the region has a total afforested area of some 23,450 ha [hectares], including more than 201 ha of nurseries of young trees and over 2.4 million economic trees.

Currently, the annual afforestation area in the region has jumped to more than 50,000 ha from 20,000 ha in the past years, according to official statistics.

Since Tibet began its drive for economic development in the areas along the Yarlung Zangbo River, the biggest river in this region, local governments have concentrated some manpower as well as funds on the afforestation drive.

After years of hard work, a 20-km-long forest belt of some 670 ha has been formed along the southern bank of the river.

Official sources said that Tibet is one of the few regions of the country which have protected the environment well and Tibet's good ecology is still in good condition.

Liaoning Doubles Forest Coverage

OW0503014694 Beijing XINHUA in English
0054 GMT 5 Mar 94

[Text] Shenyang, Mar 5 (XINHUA)—Growing forests has helped prevent one of China's leading heavy industrial areas—Liaoning Province in northeast China—from suffering worsening pollutions.

Experts say that the increasing forests greatly helped improve the local ecological and living environment as the coverage rate grew from 12.9 percent to 28.7 percent during the past four decades.

A leading industrial province in China, Liaoning has one of the highest proportions of urban population among China's provinces. However, great efforts have been made to grow and protect the forests, whose acreage has risen from 1.87 million ha to 4 million ha.

Officials from Liaoning Afforestation Bureau said that a total of two million ha of forests has been growing in the mountain areas in the eastern part, which protects about 80 percent the sources of water supply in the central industrial part of the province.

Major reservoirs like the Dahuofang, which supplies water for Shenyang and other leading industrial centers in the area, contain the lowest level of sand among China's large reservoirs because of the protection of forests.

In the western part of the province, which used to be plagued by soil erosion and sandstorms, large numbers of trees and shelterbelts have been planted since 1978. As a

result, rainfall increased by 30 percent and the amount of sand borne in water decreased drastically.

In addition, the groundwater table rose in some areas by three to four meters. Areas around such major cities as Chaoyang, Jinzhou and Fuxin, which used to import a large amount of grain, have been turned into rich land and grain has begun to be exported.

Forests-protecting farmland in the plains also increased to 67,000 ha. Experts say they are protecting a total of 1.33 million ha of farmland. Experiments have proved that shelterbelts can reduce wind speed by 27 percent and improve the earth temperature by 1.7 degrees centigrade.

Another one million ha of forests in the coastal areas have also greatly reduced the damage from the sea winds, experts say.

Efforts To Recycle Used, Waste Materials Increased

OW0503031094 Beijing XINHUA in English 0245 GMT 5 Mar 94

[Text] Wuhan, Mar 5 (XINHUA)—China has stepped up efforts to recycle used and waste materials so as to stem the worsening resources shortage and environmental pollution.

According to information from the Ministry of Internal Trade, a comprehensive waste-recycling system has taken shape across the country, generating considerable profit.

In certain departments, such as metallurgy and light industry, more than 70 percent of waste has been reused, say officials in charge of waste-recycling.

China, the most populated country in the world, is also a large waste producer.

It is estimated that each year, China discharges at least 800 million tons of industrial waste, ore tailings and garbage, most of which can be reclaimed.

Getting useful materials from waste has long been placed high on the government's agenda.

To date, some 4,700 large waste-recycling companies and over 120,000 collection points spread across the country have been established, recovering annually 35 million tons of waste materials, saving up to 20 billion yuan (2.3 billion U.S. dollars) a year.

The recycling rate has seen remarkable growth in big consumers of materials and energy.

In the country's major iron and steel companies in Beijing, Shanghai, Anshan and Tangshan, 90 percent of their effluents has been recycled.

The Chengdu Seamless Steel Tubing Mill in southwest China's Sichuan Province has recycled all its waste water, leaving virtually no harmful discharge.

Sixteen companies in the country have started to recycle coal gas and residues discharged from their boilers.

In addition, according to inspection of more than 130 firms in the trades of papermaking, consumer chemicals, sugar producing and so on, measures have been taken to reuse their waste.

The sugarcane chemical works in Jiangmen, Guangdong Province, has taken the lead in making paper from the residue of sugarcane while producing alcohol, yeast, aldehyde and fertilizer with waste generated during the process of papermaking.

Chinese scientists have also successfully recovered silver from used films. Techniques to recycle waste rubber and iron scrap have also been worked out.

Soil Erosion in Yunnan 'Growing More Serious'

HK0503064294 Beijing ZHONGGUO XINWEN SHE in English 1349 GMT 4 Mar 94

[Text] Kunming, Mar 4 (CNS)—Participants attending the second session of the 7th Yunnan People's Political Consultative Confrence warned that a sharp drop in arable land resulting from serious soil erosion would have disastrous consequences.

Yunnan, a highland province with arable land making up a mere 7.5 percent of its entire area, has few effective water conservancy works while the land under cultivation is so weak that its productivity is far lower than the average across the country. Soil erosion is growing more serious because of frequent natural disasters such as drought, waterlogging, flooding, earthquakes and mudslides with the living conditions in some areas being in jeopardy. Land under cultivation is still in decline as incomplete statistics show that the area of paddy fields wre reduced by 149,300 mu in 1993 compared with the area in 1985.

The use of land in the province is not yet under proper administration and some counties and cities have rushed to make use of arable land for the establishment of development zones without undertaking prior fasibility studies. The participants at the conference pointed out that damage to the ecological environment and land would result in waste and lead to a disastrous outcome. They called for greater awareness of the need for environmental protection in the province while at the same time asking for the drawing up of measures for the protection of land for proper use.

Director of the Yunnan Institute of Economics Mr. Hu Tongyuan suggested that a dramatic adjustment of the agricultural pattern should take place. Ecological-safe agriculture, commerce-oriented farming and agriculture for the earning of foreign exchange should be painstakingly undertaken. Modern agriculture should be developed with a wider scope covering farming, forestry, animal husbandy and breeding togethr with comprehensive exploitation of the processing industry. The area under cultivation needs to be maintained in order to ensure a certain amount of agricultural output while few breakthroughs could be seen as far as science and technology were concerned in the improvement of farming conditions while at the same time demands for grains for consumption continued to grow steadily.

Government To Boost Tree-Planting, Fight Forest Fires

HK0503082094 Beijing CHINA DAILY in English 5 Mar 94 p 1

[Report by staff reporter Gao Jun: "Contest Plan to Make China Green"]

[Text] The government is launching an annual contest to reward the nation's greenest cities, counties, townships and villages.

The move is a new initiative to boost the country's tree-planning drive.

Cities will be in the running to become one of the country's "top ten" if at least 85 percent of the local residents have voluntarily planted trees, said a circular issued by the Forestry Ministry and the National Afforestation Committee.

At least 30 percent of each city must be covered with trees, grass and flowers. Each resident should have at least 5 square metres of green space.

In addition, every construction project must include green areas.

The judges will also consider no candidate in whose area there has been a serious natural or man-made forestry accident in the past five years, said the circular.

As well as the green cities, the judges will select 100 counties and 100 townships and 1,000 villages each year, the circular said.

The winners will receive medals and certificates, but their titles will be revoked if their standards fall, the circular added.

The green contest aims to boost the drive to control soil erosion and to relieve the damage caused by storms and sand.

It is also designed to encourage local farmers to make more profits by planting trees and developing forests.

Forestry officials said the prize winners should also perform a leading role in improving the farmers' living standards and helping them escape poverty.

Meanwhile, China's top forestry official vowed yesterday to work full time to improve procedures to prevent forest fires.

The news came during a national telephone work conference, chaired in Beijing, during which it emerged that forest fires decreased remarkably last year, thanks to the persistent efforts of local governments and forestry staff. Forestry Minister Xu Youfang told the conference that the area of forest hit by fires nationwide last year tumbled 54.3 percent from 1992.

The number of individual fires fell by 34.7 percent, he said.

And the figures are respectively 41 and 42.3 percent lower than the average level of the previous five years, he added.

However, he went on to call for better equipment and training for the country's forest firefighters to enable them to cope with all emergencies.

Xu also stressed that regulations or fire prevention should be improved and more strictly enforced.

A professional network to prevent forest fires should be established to analyze and research the causes an spread of fires, he said.

State Councillor Chen Junsheng called on local governments to remain vigilant saying they must do all they could to avoid anything that might cause similar damage as suffered by other countries in recent forest fires.

UN Picks Qiandao Lake as Environmental Monitoring Site

OW0403094194 Beijing XINHUA in English 0722 GMT 4 Mar 94

[Text] Hangzhou, Mar 4 (XINHUA)—Qiandao (Thousand Island) Lake in east China's Zhejiang Province has been picked by the United Nations environment program as a site for monitoring the global land ecological system.

This is the only site in China selected by the program, which highly appraised its geographic features and landforms.

The lake was formed after submerging land for the construction of a huge reservoir on the upper reaches of the Xian River. It is a favorite tourism spot, where the more than 1,000 islands were once hilltops.

Yunnan Biologists Try New Way To Protect Plants

OW0403132094 Beijing XINHUA in English 0807 GMT 4 Mar 94

[Text] Kunming, Mar 4 (XINHUA)—A group of biologists are helping monks plant trees and flowers in a temple in Yunnan Province's Dai Autonomous Prefecture of Xishuangbanna.

From Chinese Academy of Sciences, the scientists are trying to preserve the rich plant varieties in this southwest China tropical region.

Professor Xu Zaifu, director of the prefecture's botanical garden, said that it is also a research conducted according to a United Nation's convention issued in 1992 to preserve the diversity of living beings and local culture and maintain the harmony between them.

Funded by the U.S. Ford Foundation, they aim to cultivate over 100 kinds of plants which are on the verge of extinction caused by the population growth.

The 19,000-sq-km prefecture, bordering on Myanmar [Burma] and Laos, is a home to a dozen minority nationalities, including the Hani, Lahu, Blang and Yi, with a combined population of over 800,000. The Dai nationality accounts for the largest proportion.

Plants play an important role in local religion.

The Dai people believe in a kind of Buddhism, the sutras of which are written on palm leaves.

According to ancient records, trees always appeared in important events in the life of the father of Buddhism, Sakyamuni. He was born, enlightened and entered a state of nirvana under trees.

So trees have been honored as holy among local Buddhists. In the past, anyone who cut down a tree would be sentenced to death and their offspring made slaves.

In addition, temples and Buddha figures are made of valuable timber. Lamp-oil, perfumes and dyes are refined from flowers and leaves.

At present, there are more than 500 temples in the prefecture, which are called "gardens for buddhist plants", with at least over 50 varieties in each of them.

Xu and his colleagues hope to extend the research to other temples.

REGIONAL AFFAIRS

Asia-Pacific Environmental Meeting To Be Held in Tokyo

OW0403075794 Tokyo KYODO in English 0738 GMT 4 Mar 94

[Text] Tokyo, Mar 4 KYODO—An international gathering to discuss measures to achieve environmental conservation and economic development in the Asia-Pacific region in the next century will be held in Tokyo on 16 and 17 March, government officials said Friday [4 March].

The meeting will be attended by experts from Asian and Pacific countries and the United Nations, they said.

At the environment conference for Asia and the Pacific (ECO Asia '93) held in Chiba last June, Japan's Environment Agency pledged to draw up a report on such measures with the help of other Asia-Pacific nations and the UN.

The first meeting on the project called "ECO Asia 21 Plan" will decide on the date of release of the report while discussing concrete measures, the officials said.

Japan will tell the meeting that it wants to submit an interim report to a gathering of the Economic and Social Commission for Asia and the Pacific (ESCAP) to be held next year and a final report to a special U.N. General Assembly session in 1997, they said.

The plan will propose policies, financial aid and international cooperation needed to maintain the environment and yet promote development in the region.

The experts will draft the program after making projections for the region's future population, economic growth, manufacturing, agriculture, forestry, demand for energy, state of urban areas, and environmental conservation policies, the officials said.

BURMA

Forestry Minister To Attend Meeting on Tigers

BK0103145094 Rangoon Radio Burma in Burmese 1330 GMT 1 Mar 94

[Text] A Myanmar [Burmese] delegation led by Lieutenant General Chit Swe, member of the State Law and Order Restoration Council and minister of forestry affairs, left Yangon [Rangoon] by a Thai International flight this evening to attend the first ministerial meeting on the world's tigers to be held in New Delhi, India.

The delegation was seen off at Yangon airport by Agriculture Minister Lt. Gen. Myint Aung, Hotels and Tourism Minister Lt. Gen. Kyaw Ba, Indian and Japanese ambassadors, American and Singaporean charge d'affaires, departmental heads and advisers from the ministry of forestry affairs, responsible personnel, and relatives.

After attending the meeting, the minister will leave for a visit to the United States at the invitation of a U.S. senator.

CAMBODIA

Deforestation Blamed on Both Warring Sides

94WN0151A Helsinki HELSINGIN SANOMAT in Finnish 15 Jan 94 p D 2

[Article by Jari Lindholm: "Cambodia Soon Deforested"]

[Text] The warring parties in the civil war are in a hurry to sell the country's natural resources.

Near the end of 1992, a reconnaissance plane from the UN's Cambodia operation filmed from the air the Pailin area, which is controlled by the Khmer Rouge. The film was so shocking that the UN declared it secret.

The guerrillas had raped all of western Cambodia. Hills had been turned into open mines, from where precious stones had been taken to Thailand. The remaining trees had been felled and dragged across the border, without any attempt to spare the ground vegetation.

In Cambodia, peace and capitalism have been able to achieve, in one and a half years what war and communism were unable to do in two decades; the country's unique natural resources are teetering on the brink of an ecological catastrophe.

The warring parties of the Cambodian civil war are the people behind the deforestation. In 1991, after peace had been reached, they hurried to sell the natural resources of their lands to the highest bidders.

Thailand and Vietnam, Cambodia's neighbors, were the architects of this catastrophe. After they had put an end to logging in their own countries, they needed the raw material for their rich customer, Japan.

The UN development program, UNDP, is attempting to slow the destruction through a project that is aiding the government in creating a sensible environmental policy. After the UN, Finland is the most significant supporter of the project, as it has committed itself to a contribution of 340,000 dollars.

"Cambodia's problems are frightening," said Mbella Ngongi, legal counsel for the project. "Environmental protection is something new in this country. Even the cabinet ministers must be educated," he added.

The task appears hopeless. Starting from scratch, seven experts must, in less than a year, teach the Cambodians moral values and help them enact laws that would prevent environmental destruction.

The project's goals are awesome: the enactment of environmental laws in a country with only five lawyers; even many of the justices on the Supreme Court have no legal training.

"It's no wonder that they give up their natural resources without stopping to ponder the consequences of such insanity," said one UN official, who asked to remain anonymous.

In many areas, the destruction has been so reckless that refugees, returning after 10 years from Thailand, have been unable to recognize their native region.

During the 13-year-long civil war, the Phnom Penh government, which enjoyed the support of Vietnam, cut down forests in order to chase the Khmer Rouge out in the open. The guerrillas escaped and the timber was taken to Vietnam.

Logging operations accelerated in October 1991, when the four parties in the civil war signed a peace accord in Paris.

"In Cambodia, in a year and a half, all natural resources, both used and unused, ended up being controlled by foreigners," as the newspaper, PHNOM PENH POST, stated last summer.

Cambodia's neighbors need lumber. Thailand put a stop to logging in 1989. Laos put restraints on logging operations in the summer of 1991. Vietnam outlawed lumber exports in the spring of 1992.

"Cambodia was easy prey for its neighbors," said UNDP's lawyer, Ngong. "A civil servant earned 10 dollars a months. He could not believe his ears when he was offered millions just for tree trunks," he added.

In 1992, 1.5 million cubic meters was exported from Cambodia. More than half of this was transported illegally to Thailand and Vietnam.

Everyone sold logs: Khmer Rouge, the Cambodian Peoples' Party, which formerly led the communists, and FUNCINPEC [National United Front for an Independent, Neutral, Peaceful, and Cooperative Cambodia], who was loyal to King Sihanouk.

"We have enough forests to use," said Deputy Finance Minister Mok Mareth. "All of Cambodian is green."

Mareth is currently under secretary in charge of environmental affairs.

Log exports were temporarily stopped in January 1993. According to the UN, during the first five months of the moratorium, the prohibition was violated 103 times—at a value of 7.2 million dollars.

According to Ngong, the problem is that everyone wants to get rich fast, and they are all blinded by quick profits.

The government parties have not stated how they intend to combat the ecological catastrophe. And that is not surprising, as soldiers from Cambodia's new army stand guard in the log yards of Thai companies, during forest auctions.

JAPAN

Isuzu Develops 'Environment-Friendly' Bus Engine Device

OW2302085394 Tokyo KYODO in English
0753 GMT 23 Feb 94

[Text] Tokyo, Feb 23 KYODO—Isuzu Motors Ltd. said Wednesday [23 February] it has developed an environment-friendly engine device for large commuter buses that automatically stops the engine when the bus halts at a bus stop or for a red light.

Isuzu said it is the first Japanese maker to develop such a device, called an idling-stop-and-start system.

The system stops the engine when the driver stops the bus and shifts the gear into neutral and frees the clutch pedal. It starts the engine again automatically when the driver steps on the clutch.

Isuzu said the system can reduce nitrogen oxide emissions by nearly 10 percent when running in urban areas and improve fuel efficiency by about 10 percent.

The system will be available from April 5 for 350,000 yen, the company said.

Tokyo Wants CFC Exemptions Despite Available Substitutes

OW0603091794 Tokyo KYODO in English
0854 GMT 6 Mar 94

[Text] Tokyo, Mar 6 KYODO—Japan will apply for exemptions from an international ban on the use of chlorofluorocarbons (CFC's) harmful to the earth's ozone layer despite the availability of substitutes, government sources said Sunday [6 March].

The sources said the government has informed the Nairobi-based secretariat of the Vienna Convention for the Protection of the Ozone Layer that it will seek the exemptions in three areas, including coolants in refrigerated and frozen food display cases.

The exemptions, if permitted, would allow the limited use of CFC's beyond the late 1995 international deadline for the suspension of their production and use.

Such exemptions are permitted under the Montreal Protocol on substances that deplete the ozone layer.

The ozone layer protects the earth from harmful ultraviolet rays.

Given an international trend toward minimizing exemptions, though, the Japanese request is likely to be the main issue to be discussed at an autumn meeting in Nairobi of countries which are signatories to the protocol.

The Japanese list of proposed exceptions is likely to come under severe criticism from European countries and environmental conservation organizations because it includes substances for which substitutes have already been developed.

The government is arguing that the exceptions are necessary because Japan has many small businesses which rely on CFC's and industry has not made sufficient advances in the recovery of CFC's.

It is requesting that Japan be allowed 1997-98 reserves of about 80 tons of CFC-115 used in refrigerator display cases and freezers and an additional 240 tons or so of four types of CFC's used as jet agents for sprays in medical equipment because there is no suitable substitute.

The government is also arguing that Japan will need additional reserves of several substances for use as solvents and standard reference material for use in analysis and research into CFC's.

These include about 150 tons of carbon tetrachloride used in fire extinguishers, about 6 tons of CFC's, and about 3 tons of 1,1,1- trichloroethane normally used in the production of insecticides.

All of the substances cause damage to the ozone layer.

Under the convention, their production and consumption is due to be suspended by the end of 1994.

Exceptions to the Montreal Protocol are permitted under an "essential use" clause, but only apply where they are necessary to health and safety and where a substitute is not economically or technologically practical.

The international environmental and conservationist organization Greenpeace says the United States has submitted requests for exceptions for its space shuttle program and for local anesthetics which far exceed Japan's requests.

But Greenpeace says the U.S. requests do not include refrigerator coolants for which substitutes have already been developed.

European Union countries have indicated they will submit requests for exceptions of only small amounts, while Switzerland, the Netherlands and Australia have all indicated they will reduce amounts to zero by the deadline.

Ministry Calls For Halt To Use of Herbicide on Rice

OW0703122494 Tokyo KYODO in English 1157 GMT 7 Mar 94

[Text] Tokyo, Mar 7 KYODO—The Health and Welfare Ministry on Monday [7 March] urged the Environment Agency to ban the herbicide CNP (chloronitrofen), widely used on rice paddies, because it may cause gall bladder cancer.

The ministry said the acceptable daily intake of CNP set in 1977 should be scrapped. In response to the ministry's decision, the Environment Agency decided not to register CNP as an agricultural chemical until a new acceptable daily intake has been agreed and urged the Agriculture, Forestry and Fisheries Ministry to halt its use, officials said.

The Health Ministry made the recommendations on the basis of a report from a committee advising it on the safety of residual agricultural chemicals.

The Farm Ministry also said it will order local governments to stop using CNP and replace it with substitutes in time for the April-June planting season. Ministry officials said 12,000 tons of CNP were used last year.

The manufacturer of the chemical, Mitsui Toatsu Chemicals Inc., will also voluntarily cease producing and marketing it, a company executive said Monday.

Managing Director Takeshi Nakai said the company is confident of the safety of CNP, but decided to voluntarily stop producing and selling it, and "abide by the government's announcement."

"Only a few farmers have purchased CNP at this point, so there should be little confusion if we ask them to return it," Nakai said.

Mitsui Toatsu produces 8,000 tons of CNP annually. It has already manufactured 4,000 tons this year. CNP sales amount to 1.4 to 1.5 billion yen each year, company officials said.

Weed killers containing CNP are normally distributed to farmers via local agricultural associations.

The possible danger from CNP came to light after clinical tests by Prof. Masaharu Yamamoto of Niigata University medical faculty showed that the rate for gall bladder cancer among residents in the Niigata Plain, one of the country's main rice producing areas, was unusually high.

Civic organizations in the Niigata area have demanded that the government ban the chemical.

The Health and Welfare Ministry's advisory body concluded that there was a regional correlation between CNP and gall bladder cancer, but also said it was difficult to establish a causal relationship.

Yamamoto said there is sufficient statistical correlation between the use of CNP and gall bladder cancer, but any proof of a causal relationship will have to wait until there are signs of a drop in the death rate from the cancer after the ban on CNP takes effect.

NORTH KOREA

Statement Rejects South Dumping Nuclear Waste

SK0403011794 Pyongyang Korean Central Broadcasting Network in Korean 2207 GMT 3 Mar 94

["Joint statement" issued by DPRK political parties and public organizations in Pyongyang on 3 March]

[Text] In connection with the fact that the random dumping of nuclear waste materials into the sea has recently been disclosed in South Korea, DPRK political parties and public organizations released the following joint statement:

Joint statement of DPRK political parties and public organizations:

The random dumping of nuclear waste materials into the sea has recently been disclosed in South Korea. This greatly angers the nation.

Data show nuclear power stations in South Korea dumped into the sea 142 trillion becquerels of radioactive waste materials in 1991 and 155 trillion becquerels of radioactive waste materials in 1992.

The South Korean puppets dumped 11,000 trillion becquerels, or approximately 100,000 curie, into the sea in the seven years from 1986 to 1992. This is an unimaginable, grave crime that artificially destroys the ecosystem and inflicts miserable nuclear damage on the South Korean people, in addition to fellow countrymen and mankind in general.

Generally speaking, radiation amounting to approximately 1.7 curie has damaged the ecosystem. It is not difficult to imagine the horrific, devastating consequences the massive nuclear waste materials, amounting to 100,000 curie that the South Korean puppets dumped into the sea, will bring to the ecosystem and the frightening catastrophes it will inflict on the South Korean people, in addition to fellow countrymen and mankind in general.

As is well known, if nuclear waste materials are dumped into the sea, they will contaminate or kill fish, shells, laver, brown seaweed, and other maritime resources and, thus, inflict fatal damage on the existence of the maritime ecosystem and people. Therefore, the London Convention bans the maritime dumping of high-intensity [kojunwi] nuclear waste materials. It also stipulates that dumping of low-intensity [chojunwi] nuclear waste materials in maritime areas must be over 200 miles away from continental shores [taeryuk yonan], where fish live, and over 4,000 km deep, where there are no volcanic activities and where man will not enter even in the distant future. It also stipulates that dumping in those areas is prohibited without notifying the International Atomic Energy Agency. A decision was adopted in 1993 on completely banning maritime dumping of nuclear waste materials.

The South Korean puppets' random dumping of nuclear waste materials into the sea is an unforgivable grave crime of flagrantly violating international law on respecting the natural environment and protecting maritime resources. Because of the uncouth ruling bunch, which ignores the law and destroys the environment at random, the South Korean sea is turning into a sea of death where all maritime resources are on the verge of extinction and the ecosystem and the people's existence are gravely threatened.

Because of the puppet clique's reckless dumping of nuclear waste materials in the South Korean sea, many sorts of fish have disappeared, fish are killed en masse, and seaweeds are dying. Moreover, in South Korea, women who ate fish contaminated by nuclear waste materials have given birth to premature or deformed babies, numerous people suffer from cancer and other incurable diseases and unidentified diseases, and fishermen's lives have become difficult because people will not buy contaminated fish. This is none other than a crime of devastating the land where our fellow countrymen live and threatening the existence of our fellow countrymen.

Our country is called a 3,000-ri land of beautiful mountains and rivers because water is clear and because the scenery is beautiful, and it is all the better to live in because the land is fertile and because maritime resources are abundant for the land is surrounded by the sea on three sides. How can Korean [Choson] people who have a national spirit tolerate this utterly unforgivable crime of turning such land into a land contaminated by nuclear waste materials where man cannot live and how can people of the world who have conscience turn a blind eye to [panggwan] this crime?

The Workers' Party of Korea and all other political parties and public organizations on the northern half of the Republic sternly denounce the Kim Yong-sam ring's dumping of nuclear waste materials in the name of all fellow countrymen, describing such dumping as an antinational crime of severing the lifeline of the South Korean people and all fellow countrymen in general and of turning our country into a barren land [pulmojidae] contaminated by nuclear materials and as a flagrant violation of the international law and convention on protecting the natural environment and banning the dumping of radioactive waste materials.

The South Korean puppets' dumping of nuclear waste materials is unthinkable apart from the secret maneuvers to develop nuclear weapons in South Korea. The South Korean puppets' maneuvers to develop nuclear weapons which started in the early seventies under the U.S. nuclear umbrella have reached a very grave stage today.

The puppets raise our nonexistent nuclear issue and viciously conduct an anti-Republic smear campaign. One of the reasons for this is to divert attention at home and abroad to the North and accelerate their maneuvers to develop nuclear weapons. Traitor [yokto] Kim Yong-sam himself told a news conference on the first anniversary of his inauguration a few days ago that the North has no nuclear weapons. In this way, he himself admitted that their anti-North nuclear commotions were a false smear campaign to harm their fellow countrymen and hide the truth of their nuclear development.

Even while pursuing nuclear development, the Kim Yong-sam ring babbles about even military countermeasures [kunsajok taeung] against someone else. Because it is so mean and shameless, the Kim Yong-sam ring unhesitatingly dumps nuclear waste materials, an antinational act against humanity [pan illyu chogin].

Even after running amok in toadyism, treachery, fascism, anti- North confrontation, and divisionist maneuvers, traitor Kim Yong-sam even kicks up maneuvers to dump nuclear waste materials. If traitor Kim Yong-sam is left intact, no one can expect independence and democracy in South Korean society or peace in the country and its peaceful reunification, and our fellow countrymen will not be able to escape from the danger of nuclear disasters [haekchenan].

The South Korean ruling bunch must immediately disclose its past dumping of nuclear waste materials and apologize to all fellow countrymen. If the South Korean authorities continue dumping nuclear waste materials and secretly pursue nuclear development, they will not be able to escape from the stern judgment of all fellow countrymen and history.

It is the South Korean people who will suffer the greatest damage from the nuclear waste materials that have flowed into the South Korean sea and who will be sacrificed first. The South Korean people must wage a popular struggle against the puppet ruling bunch's dumping of nuclear waste materials and develop this struggle into an anti-U.S. and antigovernment struggle by closely linking it to the antiwar and antinuclear struggle.

The South Korean ruling bunch's maneuvers to dump nuclear waste materials are a crime against humanity [panil-lyujogin pomjoe haengwi], which harms not only our fellow countrymen but also countries in our vicinity and various regions in Asia and the world. On this opportunity, we expect that political parties and organizations of various countries of the world, international organizations, and people of all countries that love peace and aspire for social justice and progress will pay due attention to the South Korean ruling bunch's maneuvers to dump nuclear waste materials, raise their voices against such maneuvers, and take appropriate measures to stop them.

[Issued] 3 March 1994, Pyongyang

SOUTH KOREA

Government To Join Basel Convention on Waste Control

SK0103050194 Seoul YONHAP in English 0117 GMT 1 Mar 94

[Text] Seoul, Mar 1 (YONHAP)—The South Korean Government sent an application to United Nations Secretary-General Boutros Boutros-Ghali Monday to join the Basel Convention, which controls trans-boundary movements and disposal of hazardous waste.

South Korea will be regulated by the Convention from 29 May, 90 days after it sent the application, the Foreign Ministry said.

Under the Convention, signatories cannot trade waste matters with nonparticipants. If they want to export waste, they should receive written approval first from the country which imports the waste.

The Basel Convention specifies the kinds of waste matters to be controlled, and sets procedure of trans-boundary movements of the waste and ways to make a final disposal of the wastes in order to protect human health and environment.

As of now, 52 countries joined the Convention.

ROK Hopes To Join UN Convention on Law of the Sea

SK2602021594 Seoul YONHAP in English 0700 GMT 25 Feb 94

[Text] Seoul, Feb 25 (YONHAP)—Seoul will soon seek National Assembly ratification of the UN Convention on the Law of the Sea and membership in a pact for biological diversity, Foreign Minister Han Sung-chu said Friday.

"More than 60 developing nations have ratified the convention on the Law of the Sea, and the United States and other advanced nations have said they, too, will participate. A convention will be launched encompassing all countries in the near future," Han said in his report to the National Assembly Committee on Foreign Affairs and Reunification.

"The government will seek assembly ratification and preparatory work on relevant domestic laws," he said.

The pact on biological diversity went into effect last year but South Korea is yet to sign it.

Seoul plans to join the pact within the first half of this year, the foreign minister said.

LAOS

Cooperation Documents Signed With Russia

BK0203010494 Vientiane Vitthayou Hengsat Radio Network in Lao 1200 GMT 2 Mar 94

[Text] This morning in Vientiane capital, Khamphoui Keoboualapha, deputy prime minister and chairman of the Committee for Planning and Cooperation, received a courtesy call from Victor Khlystun, minister of agriculture and foodstuffs of the Russian Federation and chairman of the Russian-Lao Governmental Committee on Economic, Trade, Scientific, and Technical Cooperation, and his entourage.

The deputy prime minister of the Lao People's Democratic Republic hailed the visit by the Russian delegation, noting that it serves to further promote and strengthen the long-standing solidarity, friendship, and cooperation between Laos and Russia.

Earlier on the evening of 1 March at Lan Xang hotel in Vientiane capital, a ceremony was held to sign a memorandum between the Lao and Russian Governmental Commissions on the Economic, Trade, Scientific, and Technical Cooperation and a cooperation agreement between the Lao National Council of Trade and Industry and the Russian Council of Trade and Industry. Signing the documents on the expansion of Lao-Russian cooperation on investment for the Lao side were Sompadit Volasan, minister of trade and chairman of the Lao commission; and Sisouk Sisombat, chairman of the Lao National Council of Trade and Industry. Signing for the Russian side were Victor Khlystun, minister of agriculture and foodstuffs and chairman of the Russian commission; and (Genedy Roskoskov), trade representative of the Russian Federation to Laos. According to the two documents, the two sides have agreed to render immediate assistance to organizations concerned to set up a joint Lao-Russian business venture on the basis of the laws of each country. The Russian side expressed their readiness to study proposals to ensure the normal operations of all business enterprises and projects set up during the period of technical assistance provided by the former Soviet Union. As for scientific and technical cooperation, the Lao side reaffirmed its readiness to set up scientific and technical cooperation with Russia on the basis of the utilization of its own natural resources, technical lessons from Russian, and funds from third countries, the IMF, and interested businessmen. The fundamental task of this cooperation program is the protection of the environment, the conservation and restoration of forests, the raising of the level of harvest efficiency, the eradication of crop pests, and mining and exploration.

NEW ZEALAND

Ministries Announce Export of PCBs to France

BK2502095494 Hong Kong AFP in English 0836 GMT 25 Feb 94

[Text] Wellington, Feb 25 (AFP)—New Zealand will export its remaining 350 tonnes of toxic polychlorinated biphenyls (PCBs) to France for destruction, the Foreign and Health Ministries said in a statement Friday.

New Zealand has no facility capable of destroying PCBs, which were used in electrical equipment.

The PCBs are to be incinerated by French state-owned company Tredi at a site near Lyon, which is expected to receive the PCBs from New Zealand.

The environmental organisation Greenpeace said it will continue its campaign to stop toxic waste shipments.

Spokeswoman Stephanie Mills said the shipments to France broke the spirit of the Basel Convention on waste trade, which called on countries to deal with wastes themselves.

PHILIPPINES

Activists Intercept Russian Ship Carrying 'Toxic' Material

BK0203132394 Quezon City GMA-7 Radio-Television Arts Network in Tagalog 0930 GMT 2 Mar 94

[Text] Activists from Greenpeace—an international ecological group—have prevented a Russian container ship loaded with toxic and hazardous materials from entering the port of Manila. Two 40-foot container vans, each containing 22 tons of dangerous computer scraps [preceding two words in English] from Australia, were discovered inside the Russian ship Gamzat Tsadasa. A Greenpeace patrol group was able to follow the ship all the way from its port of origin in Australia.

According to Greenpeace, these computer scraps [preceding two words in English] can cause health problems, specifically respiratory ailments. The computer scraps [preceding two words in English] are mixed with asbestos and other toxic materials.

[Hong Kong AFP in English at 0728 GMT on 2 March in a similar report adds: "A Philippine senator and the environmental activist group Greenpeace protested the delivery of two containers Wednesday allegedly carrying Australian 'computer scrap' to be dumped in this country. However, the Russian ship that brought the containers resisted calls to take back the shipment, which Greenpeace claimed included hazardous materials like asbestos and harmful plastics, back to Australia.]

["Senator Orlando Mercado, a vocal advocate of environmental measures, accompanied by journalists, located the two containers at Manila's port and ordered them loaded back on the ship 'Gamzat Tsadasa.' Cranes were used to bring the containers alongside the ship but crew members told Mercado that their captain refused to take them on. Mercado was later joined by local environmentalists and members of Greenpeace who visited the Philippines on the last leg of a Southeast Asian tour to protest developed nations' dumping of hazardous waste in developing countries. They hoisted a huge banner over the two containers, saying 'Australia, stop wasting Asia.' Greenpeace members said very little of the computer scrap could be recycled, saying the rest would be dumped. They added that this violated a Philippine law banning the shipping of toxic materials to this country.]

["Leigh Sarinas, terminal manager of Filipino-Soviet Shipping Company, a Philippine-Russian joint venture that owns the ship, confirmed its docking at Manila before dawn Wednesday had been delayed by Greenpeace attempts to intercept the ship. Greenpeace said the shipment had been 'impounded' but Customs officials could not confirm this."]

TAIWAN

Economic Ministry, Danish Environmental Company Sign Accord

OW0303085494 Taipei CNA in English 0703 GMT 3 Mar 94

[By Danielle Yang]

[Text] Taipei, Mar 3 (CNA)— The Ministry of Economic Affairs (MOEA) formed a strategic industrial alliance with a Danish environmental technology firm Thursday [3 March].

Under the pact, both sides will cooperate on environmental protection technology to produce high value-added products.

Vice Economics Minister Yang Shih-chien, who signed the pact with Voluno Ecology Systems Chairman S. Costa in Taipei, said the deal is the 12th of its kind since the MOEA embarked on the mission to form strategic alliances with foreign enterprises.

The Voluno group is a world-renowned multinational enterprise which has been an environmental technology leader for more than 60 years. The Danish firm has built 170 incinerators in 18 countries, including the United States, Japan, and Germany.

Yang said at the signing ceremony that Voluno will set up Asia-Pacific business and manufacturing centers in Taiwan and establish long-term cooperative ties with local companies and investment consortia.

He also stressed that through the alliance, Taiwan will be able to upgrade its industrial design and production ability as well as boost research and development.

Yang said Voluno's willingness to enter into the venture reflects its confidence in Taiwan's potential to become a Asia-Pacific business hub.

The Voluno pact brought the number of foreign enterprises which have signed strategic alliances with Taiwan to twelve. Strategic alliances have been signed with AT&T, GE, General Motors, Motorola, HMM [expansion unknown], Westinghouse, and Carpenter Technology Corp. of the United States, Holland's Philips, ABB [expansion unknown] of Sweden, CSR [expansion unknown] of Australia, and Cida-Geigy Ltd. of Switzerland.

Official Comments on Visit of U.S. Conservation Officials

OW0103181094 Taipei CNA in English 0725 GMT 1 Mar 94

[By Y.C. Tsai]

[Text] Taipei, Mar 1 (CNA)—A seven-member delegation of U.S. wildlife conservation officials will arrive in Taiwan Tuesday [2 March] evening to inspect conservation efforts here.

The delegation, led by Kenneth Stansell, director of the Office of Management Authority of the Fish and Wildlife Service under the Department of the Interior will visit the Council of Agriculture (COA), the Department of Health, the Ministry of Justice, the Directorate General of Customs, and the National Police Administration during their five-day stay in Taiwan.

The inspection tour will help determine whether the U.S. Government will impose trade sanctions against Taiwan for alleged trade in endangered species parts.

COA Chairman Sun Ming-hsien pledged that the council will do its best to act on advice and guidance from the U.S. delegation or other conservation groups at home and abroad in order to improve Taiwan's protection of endangered wildlife.

He added that he will also seek a rhino horn identifying agreement with the United States when meeting with the delegation.

"We will take this opportunity to communicate with the delegation members in the hopes that a rhino horn identifying technique agreement with the United States will be signed as soon as possible," Sun added.

The U.S. Government's willingness to enter into such a pact demonstrates its goodwill toward Taiwan's wildlife conservation efforts, he noted.

The U.S. Department of the Interior, under pressure from international conservation groups, last September identified Taiwan as an area trading in rhino horn and tiger bone and asked President Bill Clinton to call for trade retaliation against the island.

Meanwhile, the Geneva-based Convention on International Trade in Endangered Species (CITES) Standing Committee will meet March 21-25 to decide whether to call for an international economic boycott against Taiwan.

Two CITES delegations visited Taiwan in November and January respectively to evaluate Taiwan's wildlife protection measures.

Results of the CITES meeting are expected to be influential in the U.S. Government's decision in late April, Sun said.

THAILAND

Agency Allays Fears Over Recent Radioactive Cases

BK2302030694 Bangkok THE NATION in English 23 Feb 94 p A2

[Text] The head of the atomic energy authority issued a press release yesterday urging the public not to be alarmed over recent cases involving radioactive material.

Suchat Mongkhonphan, secretary-general of the Office of Atomic Energy for Peace (OAEP), said the quantities and types of uranium involved meant they were not dangerous to public health.

But the release also suggests that the eight barrels of hazardous waste imported last year by a Thai company may have contained small quantities of the uranium isotope—Uranium-235—considered most dangerous.

It was revealed last week that Thai Tantalum Co. Ltd. had imported from the United States nearly 3,000 kgs of toxic sludge contaminated by radioactivity. Officials from the Department of Industrial Works later announced that the company's import licence would be revoked.

Last June, the U.S. Nuclear Regulatory Commission had sent a letter to Suchat's office via the Thai Embassy in Washington warning that the waste contained radioactive substances. But the OAEP has not been able to locate any records acknowledging the letter's receipt.

Thai Tantalum claimed that tests run on the sludge showed with a 90 percent certainty that it contains less than 0.2 percent (or roughly 5.5 kgs) of thorium and uranium, two highly radioactive substances.

"The company has donated the sludge to the OAEP and we now have it in possession," Suchat announced.

"There is uranium contamination, but very little in quantity and most of it is Uranium-238.

"The level of radioactivity is not considered dangerous for anyone. Its concentration is below the standard set by the Atomic Energy for Peace Act of 1960."

The press release did not mention the exact amount of radioactive material in the sludge. According to an amendment to the law, those importing material containing 15 percent or more of uranium or thorium must obtain a licence from the Atomic Energy Commission.

The press release explained that 99.28 percent of uranium found in nature is Uranium-238. Uranium-235, which makes up only 0.71 percent of the isotopes found naturally, is the type that is used in nuclear reactors and to make bombs. The other uranium isotope found in nature is Uranium-234, it said.

It had not previously been known that isotopes other than Uranium-238 were present in the sludge.

"The office will use the material for research," the report explained.

Suchat also asserted that the uranium boxes reportedly being smuggled into Thailand from Cambodia are not dangerous.

"From our experience—we have come across this kind of box twice before—we have found they contain depleted uranium [Uranium-238] and have very low radioactivity," Suchat maintained.

He also explained that when Uranium-235 (or enriched uranium) is extracted for use from natural uranium, the remainder is called depleted uranium. It is considered very cheap, he said.

Investigation Launched Into Encroachment of Forest Reserves

BK2402023994 Bangkok BANGKOK POST in English 24 Feb 94 p 6

[Text] Thousands of teak and other valuable trees were found to have been cut around their trunks and left to wither in an area of over 1,500 rai in the Tha Song Yang National Forest Reserve along the Thai-Burmese border, Forestry Department deputy chief Yanyong Thanomphichai said yesterday.

Mr. Yanyong yesterday led an eight-member committee in charge of examining the encroachment of forest reserves to check the Tha Song Yang Forest Reserve.

The committee included representatives of the National Environment Board, Kasetsat University, Third Army Region, Forest Industry Organisation (FIO) and Forestry Department.

The trees were cut around their trunks and left to die over ten years ago by Karen tribesmen who fled fighting inside Burma across the Moei River to Thailand, Mr. Yanyong said.

He added that the committee had agreed to propose that the FIO be assigned to fell the dead trees. Mr. Yanyong added that the FIO must carry out the assignment by itself, and that granting a private firm a sub-contract would be prohibited.

After the dead trees were taken away, new trees would be planted in the area to revive the watershed.

If nothing was done to the dead trees they would soon decay or burn down, he said.

Forestry Department sources said that several thousand rai of forest area in Mae Ramat National Forest Reserve in Tak Province had been encroached upon similarly.

Encroachers hired Karen tribesmen to chop around tree trunks, make a bonfire at the tree bases and build fences around land plots to claim ownership after the forest was declared deteriorated, the sources said.

Government officials were believed to have been involved in the encroachment.

Tha Song Yang district police chief inspector Pol Lt-Col Anan Saengthong said the encroachment was still being investigated.

National Environment Committee Approves Dam Project

BK2402025494 Bangkok THE NATION in English 24 Feb 94 p A3

[Text] The National Environment committee yesterday approved the Pasak Dam project, saying the environmental impact would be small compared with the benefits it would bring.

"The committee has analyzed every aspect, both negative impacts and advantages, and concluded that it should go ahead," Prime Minister Chuan Likphai, chairman of the committee, said.

The Pasak Dam project was initiated by His Majesty the King in 1989, but was shelved following public resistance. The project was resurrected in December when the King said in his birthday address that he wished to see the dam completed in time for his 72nd birthday in 1999.

The Irrigation Department has said it will take four years to build the dam, to be located at tambon Nong Bua, in Lop Buri's Phatthana Nikhom district.

The total cost of the project is estimated at Bt [baht] 14 billion, with the dam itself costing about Bt4 billion. When complete, it will hold 785 million cubic metres of water.

Chuan said 70 percent of the allocated budget will be used for land expropriation, and compensation. He dismissed speculation that unscrupulous businessmen might try to cream off some of the money. "We have repeatedly emphasized that the benefits will go to the villagers," he insisted.

He said that conservationists need not to be worried about the negative effects on the environment, since the relevant government agencies would concern themselves with forestation.

Science, Environment and Technology Minister Phisan Munlasatsathon said that the ministry is prepared to resettle people and animals from the site. Villagers would be relocated to five reserved deteriorating forests.

Government Spokesman Aphisit Wetchachiwa said that government would spend Bt9.9 billion to help in the resettlement programme and to find measures to cushion the environment impact.

About 120,000 rai of farmland and an estimated 17,663 rai of deteriorating forest will be flooded by the dam lake.

VIETNAM

Prime Minister Issues Directive on Trash Disposal

BK2502060994 Hanoi Voice of Vietnam Network in Vietnamese 1100 GMT 24 Feb 94

[Text] On 7 February, the Government Office issued Instruction 658-NC on measures dealing with illegal dumping of waste and garbage in Ho Chi Minh City. The prime minister has instructed the Ministry of Interior to coordinate with the Ministry of Commerce and the Ministry of Science, Technology and Environment to urgently study and deal with this issue.

The instruction urged these ministries to seriously deal with units, organizations, and individuals involving in the dumping of waste and garbage in the city. It said that efforts must be made to urgently prosecute those who trigger this act. The Ministry of Science, Technology and Environment must discuss with the Ministry of Trade, the agencies concerned, and the Ho Chi Minh City People's Committee to formulate plans and measures to protect the environment.

REGIONAL AFFAIRS

Southern Cone Environmental Issues

PY1802233094

[Editorial Report] The following is a compilation of reports on environmental issues monitored through 17 Feb.

ARGENTINA

The Argentine Wildlife Foundation reported that approximately 265 native flora species are being threatened by extinction because of the "inappropriate use of resources and the natural areas that are being exploited." Most of the threatened species are in Misiones, Chaco, and Pampa Provinces. The ecosystem is being affected by the cutting of precious wood, the substitution of natural forests with exotic crops, floods, expansion of agricultural borders, construction of huge hydroelectric plants, deforestation, desertification, and burnings, among others. (Buenos Aires LA PRENSA in Spanish 6 Feb 94 p 10)

BOLIVIA

The chimneys of the Vinto smelting plant in Oruro have spewed 32,000 kg of arsenic and 312,000 kg of lead, causing irreversible damage to the local population. (La Paz HOY in Spanish 5 Feb 94 Economic Section p 1)

The Coordinating Board for Solidarity with Indigenous People issued a report on the rapid deforestation of the country's tropical forests by saw mills and settlers. The report charges that 30 or more trucks loaded with precious wood are circulating daily on the roads linking Rurrenabaque-Yucumo-La Paz, and Covendo-Sapecho-La Paz. It says that as a result of the indiscriminate deforestation "50 species are extinguished daily and forever." It adds that if current legal or illegal deforestation continues, the tropical forests will be extinct in 40 years and cause major environmental problems. (La Paz LA RAZON in Spanish 8 Feb 94 Economic Section p 4)

BRAZIL

The Environment Ministry reported that 71 species of animals are threatened by extinction in the Amazon as a result of forestry, fires, animal skin smuggling, and river pollution. The ministry added that if no measures are taken, 35 percent of the animal species in the Amazon will be extinct in the next 50 years. (Brasilia Voz do Brasil Network in Portuguese 2100 GMT 11 Feb 94)

Ten years after the construction of the Comandante Ferraz Antarctic base on King George Island, Brazilian research activities have not been fully consolidated. The Brazilian Antarctic Program as well as scientific investigations in Brazil face the same difficulties: the delay in supplying funds, bureaucracy, small disagreements among groups, the lack of ongoing action, and fishing vessels. Meteorologist Rubens Junqueira Villela says that despite the difficulties Brazil "already has carried out a valuable task in the region, including geological research on oil reserves in Elefante Island, and atmospheric and biological research, among others." (Sao Paulo O ESTADO DE SAO PAULO in Portuguese 13 Feb 94 pp D1-3)

About 250 residents from Cubatao, Sao Paulo State, who have been exposed to toxic waste dumped there until 1984, are at risk since they still are exposed to highly toxic products like benzine hexachloride and sodium pentachlorophenate. They have been monitored by physicians, who were greatly concerned by laboratory tests that showed that 60 residents who were examined are contaminated with benzine hexachloride and may develop cancer, immunity problems, liver conditions, or problems in the nervous system. (Rio de Janeiro Rede Globo Television in Portuguese 2200 GMT 15 Feb 94)

Mercury from power energy converters deactivated at the Federal Railway Network in Barra do Pirai may have contaminated the Paraiba do Sul River two days ago. Fifteen-year-old Julio Cesar Santiago Fernandes left the product 50 meters off the river bank, where at least 1 kg was reportedly spilled into the river by some youths. At least 800 people in the Cantao neighborhood might be contaminated by mercury. (Rio de Janeiro O GLOBO in Portuguese 17 Feb 94 p 16)

CHILE

The National Committee for the Preservation of Wildlife claimed that the recently approved environmental law does not have appropriate institutional support and hinders court action aimed at identifying those responsible for environmental damage. (Santiago Radio Cooperativa Network in Spanish 1000 GMT 3 Feb 94)

The Chilean Air Force President Frei Antarctic Base has become the coordinating center in charge of preventing environmental disasters, especially oil spills in Antarctica. The Chilean Marine and the Brazilian Comandante Ferraz bases will cooperate in the task. (Madrid EFE in Spanish 1458 GMT 13 Feb 94)

URUGUAY

Carrasco Councilman Alberto Sanchez said serious pollution detected in the Carrasco stream is affecting more than 200,000 people in the area. Approximately 60 industrial plants are dumping their waste in the stream. According to a study by the Humanities and Science College, the level of contamination is 100,000 times higher than that permitted by the WHO. (Montevideo LA MANANA in Spanish 11 Feb 94 p 13)

Southern Cone Environmental Issues

PY0302205394

[Editorial Report] The following is a compilation of reports on environmental issues monitored through 3 February.

BRAZIL

The Brazilian Senate has approved the Biodiversity Convention and the Climate Change Convention, which were signed by the Brazilian Government during the UN Conference on Environment and Development. (Sao Paulo O ESTADO DE SAO PAULO in Portuguese 29 Jan 94 p A13)

CHILE

The Forestry Action Plan for Chile was presented to President Patricio Aylwin on 11 January. The plan, which was drafted by the Food and Agriculture Organization and financed by the Netherlands' Government, tries to strike a balance between conservation and exploitation of native forests through joint action by the government and private companies. The plan provides for the implementation of

several programs, including a program on forestry development in rural areas, one for small- and medium-size logging companies, and a third to strengthen and enhance national parks. (Santiago Radio Cooperativa Network in Spanish 2200 GMT 11 Jan 94)

According to studies, 40 percent of the soil in the Fourth Region, Coquimbo, in Chile is suffering from desertification. The study was carried out by the Committee for the Defense of Flora and Fauna. (Santiago EL MERCURIO in Spanish 20 Jan 94 p C8)

PERU

The appearance of poppy in Peru is causing irreparable environmental damage to the jungle because drug trafficking organizations are cutting trees and using chemicals indiscriminately. The trees are then burned, releasing toxic gases. (Lima EL PERUANO in Spanish 25 Jan 94 p A7)

BOLIVIA

Vice President Comments on Gore's Scheduled Visit

PY0803031294 La Paz Television Nacional Network in Spanish 0100 GMT 8 Mar 94

[Excerpt] [passage omitted] The United States is one of the countries that renders more financial assistance to Bolivia, although part of this assistance is conditioned to results obtained by Bolivia in its fight against drug trafficking. Bolivia and the United States share bilateral interests such as sustainable development and environmental preservation, which were discussed by the two nations' vice presidents in Washington in December.

[Begin Vice President Victor Hugo Cardenas recording] We have conveyed our invitation to Vice President Al Gore. I hope that in the near future we can have the honor of receiving the visit of such a distinguished personality in Bolivia. *[end recording]*

Cardenas, however, will not have to wait for Gore too long. On 20 March, he will visit Bolivia.

[Begin Cardenas recording] We want to have sustainable development that will respect and preserve the environment. Vice President Gore sympathizes very much with this yearning. *[end recording]*

During Gore's visit, U.S. support for overall growth objectives, which resulted in the establishment in Bolivia of the Sustainable Development Ministry, also will be discussed.

BRAZIL

Region Minister Views Efforts To Harmonize Environment With Trade

PY2202192694 Rio de Janeiro O GLOBO in Portuguese 21 Feb 94 p 12

[Article by Deborah Berlinck]

[Text] Geneva—Shrimp fishermen in Northeastern Brazil will have to change their fishing nets. The problem is not quality, but the fact that U.S. scientists believe these nets kill turtles. The United States has a solution: a law banning the importation of shrimp from countries that use this type of nets. If this law is implemented against Brazil, fishermen in the northeast will loose $30 million per year.

This situation makes one wonder who establishes the trade rules and international environmental patterns. This question prompted environment ministers from 25 countries to meet on 17 February at the United Nations to discuss a basic issue: How to harmonize the freeing of world trade with the preservation of the environment. The meeting, which was headed by Brazilian Environment and Legal Amazon Region Minister Rubens Ricupero, failed to provide an answer.

The developing countries reached at least two clear decisions: They will not accept the preservation of the environment as a pretext for new barriers on exports of poor countries. Any decision in this direction must be taken at multilateral forum to avoid, for example, a country like the United States unilaterally deciding what sort of net is best for fishing shrimps in Brazil.

In this specific case, Ricupero maintains that the fishermen, afraid of being unable sell their catch to the U.S. market, are prepared to pay up to $10,000 for the TED [expansion unknown] type of net (which has a device to free turtles) and thus increase the cost of their catch. Fishermen in southern Brazil, who do not export to the United States, see no reason for change. The minister disclosed that a recent survey in the northeastern region revealed that during 4,000 hours of fishing, only two turtles were caught by the nets currently used in Brazil.

Widespread complaints that rich countries are using trade as a tool to impose their environmental patterns prompted the ministers to discuss another issue: In the event of a conflict like that of the northeastern shrimps, who will decide if the U.S. argument is right or wrong? Currently nobody has that authority, not even the UN environment agencies, not even the GATT.

Brazil and several other countries agree that the UN Environment Protection Program should arbitrate: Faced with a commercial conflict within the GATT involving an environmental aspect, the organization would give a decisive scientific opinion.

MEXICO

Legislators on Water Treaty With U.S.

PA0403043694 Mexico City UNOMASUNO in Spanish 1 Mar 94 p 6

[Report by Jorge Octavio Ochoa]

[Text] La Paz, Baja California Sur, 28 Feb—The Chamber of Deputies and the Senate, through a special committee, will soon present to the Foreign Relations Secretariat a legal proposal to renegotiate with the United States the International Treaty on Limits and Waters [Tratado Internacional de Limites y Aguas] signed by the two countries in 1944, because the neighboring country has flooded the soil of Mexicali and Tijuana with saltpetrous water and infected it with agrochemical and fecal residues, thus rendering all that territory uncultivable.

A total of 30,000 hectares have been affected, and this caused not only huge losses to wheat crops but also to human life (from 1979 to 1992) due to the emergence of new and fulminating diseases such as acute meningoencephalitis, which attacks the brain directly and kills in less than 72 hours.

Legislators of all parties met here today with jurists, researchers, and specialists on this issue to discuss the problem and determine the terms and juridical recourses that could be used to renegotiate and renew this treaty with which the United States has failed to comply for the past 20 years.

In 1993 alone Mexico received from tributaries of the Colorado River in the United States 10 million cubic meters of mud in which large concentrations of sodium, magnesium, and calcium were detected. They "have ruined the productivity of the land and have irreversibly contaminated human life, flora, fauna, and aquatic life." Moreover, as was already mentioned, also detected in those waters were the free-living protozoan amoebas [protosoario amiba de vida libre], which reproduce when in contact with organic matters, such as feces, and cause diseases such as the aforementioned acute meningoencephalitis which affects people swimming in such waters. This problem worsened last year when the Colorado River overflowed into the Mexicali Valley. This nearly flooded the city. As a result, the Permanent Committee of the Chamber of Deputies instructed the Border Affairs Committee to verify the scope of the damage and determine whether the overflowing of the Colorado River violated the treaty in question.

A special subcommittee chaired by Deputy Javier Cital Camacho conducted the respective study and concluded that "the provisions contained in the International Treaty on Limits and Waters signed by Mexico and the United States are inadmissible and unfair to our country."

The document was also signed by Ernesto Enciso Clark and Rafael Morgan of the National Action Party [PAN]; Marta Maldonado of the Party of the Democratic Revolution [PRD]; Jorge Tovar Montanez of the Popular Socialist Party [PPS]; Rogelio Appel Chacon, Oscar Garzon, and Luis Moreno Bustamante of the Institutional Revolutionary Party; and Javier Colorado Pulido of the Authentic Party of the Mexican Revolution. In this document they concluded that there is no compatibility between the hydraulic systems of the two countries, and thus, the flow [desfogue] of solid matters that ends up at the Morelos Dam "provokes permanent storage and contamination of our waterways [vasos]." This is "highly and dangerously harmful to the Mexicali and San Luis Rio Colorado Valleys." For these reasons they proposed renegotiating the treaty to turn it into a document that "promotes the principles of good neighborliness, international respect, fair treatment, and good intentions." They also pointed out that a new treaty should include the San Luis Rio Colorado Valley, Sonora, and the Gulf of California Mar de Cortes. They said that the United States must expand its ability to retain solid matters at water bodies above the Gila River and promote the construction of reservoir systems and regulators to prevent the flow of mud, among other things.

These proposals were revealed today during a forum to analyze the treaty. It was headed by Governor Guillermo Mercado Romero and Agustin Basave Benitez, chairman of the Chamber of Deputies Border Affairs Committee. Also present at the forum were Jose Ramirez Roman, chairman of the Chamber of Deputies Health Committee; PAN members Tomas Esparza Carlos, Ernesto Encizo, and Rafael Morgan; PRD member Marta Maldonado; PPS member Jorge Escobar; and specialists Rodolfo Moreno Dahma, Maria Valdes, Luis Flores Lui, Manuel Ortega, and Jesus Roman Galleros.

The latter, who is a researcher at the School of the Northern Border and in charge of the Environmental Studies Department, said that this issue is extremely delicate and requires an urgent solution because concentrations of salt of two kg per cubic meter of water coming from the United States have been detected. This, he added, is without taking into account the organic residues and mud coming from the other side of the border. "Water coming from the United States is completely contaminated, and this is so because the dam system along the Colorado River is the most controlled system in the world." It contains 2,500 km of water flow controlled by 39 dams that at the lower end release into Mexico a heavy load of contaminants from agroindustrial residues.

In a speech Agustin Basave warned that this string of problems with the United States threatens to deteriorate our bilateral relationship. He added that in this case a definitive or "lasting" [de largo aliento] solution must be sought, because it is no longer advisable to postpone discussion or a possible renegotiation of this issue.

[Mexico City UNOMASUNO in Spanish on 3 March carries a 600-word article on page 4 stating that: "Following more than 11 hours of negotiations, the Chamber of Deputies Border Affairs Committee has decided to propose to the government of the republic a 'review' of Act 242 on limits and waters signed with the United States instead of proposing a 'renegotiation' of the entire treaty, because the latter would create more conflicts between the two nations." Committee Chairman Agustin Basave points out that this issue will be brought up at the upcoming Mexico-U.S. binational meeting in April at the Port of Huatulco, because this problem 'is increasing tension in the relations' between the two countries.]

For these reasons they proposed renegotiating the treaty to turn it into a document that "promotes the principles of good neighborliness, international respect, fair treatment, and good intentions." They also pointed out that a new treaty should include the San Luis Rio Colorado Valley, Sonora, and the Gulf of California Mar de Cortes. They said that the United States must expand its ability to retain solid matters at water bodies above the Gila River and promote the construction of reservoir systems and regulators to prevent the flow of mud, among other things.

INDIA

Oil Spills Endanger Indian Maritime Zone

94WN0195B New Delhi PATRIOT in English
22 Jan 94 p 2

[Text] Off the Malabar coast, Jan 21—The Indian maritime zone has become highly suspectible to ecological and environmental degradation with the increase in the movement of oil tankers often resulting in oil spills.

About 2,000 super tankers carry oil from overseas sources to India with an average of 18 tankers entering and leaving the country's ports daily.

Besides this, the entire oil cargo from Gulf to the Fareast, Australia and Japan passes through India's Exclusive Economic Zone (EEZ) as it lies astride one of the major oil tanker routes of the world.

The responsibility of combating the potential threat of an off-shore environment disaster lies with the Indian Coastal Guards which patrol the country 7,000 km coastline in the eastern and western seaboards.

The Coast Guard undertook five oil spill combat operations during the past one year alone and one of its officers told that visiting media persons that "the force has earned recently acclaim for its successful operation in the Andaman sea by tackling the fire and a 40,000 zone spill.

The Coast Guard officials claimed that they had also contained the 6,000 tonne oil spill at Bombay high recently which was caused by the burst of a pipeline.

Coast Guard Director General, Vice Admiral K.K. Kohli, said that because of the successful anti-spill operations, the Government had designated his force as the "central coordinating authority" for combating the maritime spill around the country.

The Coast Guard has destroyer skimmers and chemical dispersants like Helo TC-3 to tackle oil slicks in the sea.

For containing oil spills, boats are lowered from off-shore patrol vessels. These boats put up oil booms which are inflatable tubes used in the containment of oil. The bombs also limit the movement of the oil and facilitate recovery.

As the Coast Guard demonstrated the operation, destroyer skimmers swung into action. This equipment is used to suck oil from oil water interface. Thus the recovered oil is sent to the refinery for re-processing.

In another operation, oil-absorbing plastic garline like rope is used top mop up the oil and recover it. When oil cannot be recovered by this process, it can be chemically dispersed by aerial spray by Helo TCS, fixed wing dornier aircraft and surface ship, using spill spray.

Expert Warns Old Nuclear Reactors Unsafe

94WN0195A New Delhi PATRIOT in English
31 Jan 94 p 5

[Text] Bombay, Jan 30—The problem of aging of nuclear reactors with the attendant radiation hazards poses a serious challenge to nuclear scientists the world over with 400 of them operational now.

According to Bhabha Atomic Research Centre director A.N. Prasad, aging could create two problems, namely, reduction in plant availability and—more importantly—safety. According to estimates 160 to 170 plants of different designs would have reached a service life of 25 years or more by the turn of the century. About 60 of them would be more than 30 years old. In addition, a very large number of research reactors would have to be decommissioned, having reached the end of their service life by that time. Most of these reactors were built when safety standards were still being evolved and regulatory requirements were much less stringent than now besides, the standards were set with the available data on performance statistics of the systems in relation to environmental factors.

Mr. Prasad said operating experience of nearly 6,000 reactor years gained by the world nuclear community indicated that aging affected all plant systems, support systems, components and structures in varying degrees and heightened the risk to public health and safety unless controlled.

Mr. Prasad said the problem of aging and related issues came into focus in the first ever international symposium of the international atomic energy agency in Vienna in 1987. Since then work in the field had been intensive as well as extensive. Studies led to identification of degradation of mechanisms such as corrosion, irradiation-assisted stress corrosion cracking, fatigues, wear due to flow-induced vibrations and embrittlement due to aging. Various laboratories had undertaken detailed studies of factors contributing to such degradation.

In nuclear facilities other than power plants, such as heavy water plants, fuel fabrication plants, spent fuel reprocessing plants and high level waste vitrification plants, though the problem of aging was no less important, concerted efforts were not as intense. However, safety requirements in these facilities varied considerably. For instance, there was no serious risk of spread of radioactivity from heavy water plants or uranium fuel fabrication plants.

While reprocessing and vitrification plants carried a large inventory of fissile materials and highly radioactive fission products, the operations involved relatively passive and slow systems. They do not experience high pressures and temperatures like power reactors, but their equipment operate under harsh and ambient conditions, particularly in the presence of highly corrosive chemicals and high radiation fields. However, their number was too small to generate adequate experience in the field.

Nuclear Power Corporation of India Limited managing director S.K. Chatterjee says the enormous cost of adding new capacity and lack of clearance for new sites for atomic stations had forced planners to consider extending operation of existing plants. This should be an important element in any nation's strategy to meet its growing power needs.

Mr. Chatterjee said the prestigious Tarapur Atomic Power Station (TAPS), which completes 25 years in April, has not run its normal full course of design life and was now being readied to operate for 40 full-power years. However, studies indicated that there was ample margin in ductility of pressure vessels for operation up to 40 full-power years.

In the light of stoppage of fuel supply from abroad and the embargo on supply of critical spares. TAPS was proposed to be run with indigenous Mixed Oxide Fuel (MOX) being developed along with enriched uranium. Apart from in-house development of spares, Indian industries were also being tapped for spares. While the Electronic Corporation of

India has developed neutron detectors, the department of atomic energy has developed feedwater spargers of modified design and this has been fabricated by the industry.

Mr. Chatterjee said in order to tackle the problem of aging, components were categorised as critical or otherwise depending upon their potential to cause spread of radiation within and outside the plant if they failed. New techniques were being evolved to inspect components, particularly those with accessibility problems and high radiation environment. New plants were proposed to be designed to enable easy replacement of such components. In the case of reactor vessels which undergo neutron bombardment, measures such as their situ annealing were being initiated to improve their ductility.

Other measures contemplated included reducing the number of assemblies needed for the core.

Mr. Chatterjee said the carbon steel and shields of Rajasthan Atomic Power Station-I (RAPS-I) and Madras Atomic Power Station-I (MAPS-I) were also likely to face the problem of enbrittlement. However, switchover to coolant channels of zirc-niobium alloy and stainless steel windshields had reduced chances of the problem arising in MAPS-2 and Kaiga in Karnataka.

In the case of spent fuel reprocessing plants, aging led to steady deterioration of solvent extraction columns due to displacement of nozzle plates. There was also fouling and choking of the process piping due to insoluble generated. Besides, there was opaqueness of radiation shielding windows vital for remote operation and maintenance due to deterioration of oil, gaskets and plants by radiation.

The experience gained in the operation of the first plant at Trombay to separate plutonium in the spent fuel discharged by cirus. The research reactor gave insight to Indian scientists into a number of problems of great significance to long-term operations of such plants.

Article Censures U.S. Linkage of Trade, Environment

BK0203030394 Delhi INDIAN EXPRESS in English 22 Feb 94 p 16

[By Chitra Subramaniam]

[Text] When it comes to telling the West where it gets off, India's Kamal Nath can hit between the eyes. So can United States. Even though national observations may be giving the issue low billing, diplomats say the next battle between the North and the South will revolve around linkages between environment and trade.

The next GATT round which will be flagged off when Uruguay Round deal is signed in April is already being termed the 'green round'. Since India and Brazil are standard-bearers of the South's concerns, both countries can be expected to be on a collision course with the West, led by the United States.

Two questions need immediate attention—How does the South convert its concerns into a negotiating strategy in GATT ? How much store can countries place in GATT's professed claim to multilateralism when the United States maintains all its unilateral options to strike trade partners thus violating everything GATT stands for?

At a recent consultation on environment and trade in Geneva, Kamal Nath said that developing countries were apprehensive of the nexus between trade and environment and feared that the latter would be used as a protectionist instrument by high-cost economies against exports from the developing world. The North received social and environmental subsidies from the South which made the former's developments patterns unsustainable, he stated.

"It makes a mockery of free trade and if we have to set things right then the subsidy has to be recognised and accounted for," he said adding that what the debate needed was more science and less scare.

Brazilian Minister for Environment Rubens Ricupero said that countries need to "strengthen a multilateral approach of building a consensus rather that resort to unilateral measures that could be used under the guise of environment protection." There were over a 150 international agreements that could guide the world on how to deal with trade and environment issues, he stated.

India and Brazil have formidable and rich foes, beginning with Washington. Timothy Wirth from the office of U.S. Secretary of State has fired the first salvo. Reports say he told U.S. Congress that his country would use trade measures to support its environment objectives, listing the following tour as primary tasks:

—Trade measures required by an international environmental agreement to which the United States is a party and assuring non-discriminatory treatment of those nations that are not party to it;

—When the environmental effect of an activity is partially within U.S. jurisdiction and there is reasonable scientific basis for U.S. concern;

—When a plant or animal species is endangered or threatened or where a particular practice is likely to cause a species to become endangered or threatened assuming there was reasonable scientific basis for U.S. concern; and,

—Where the effectiveness of a scientifically-based international environment or conservation standard is being diminished, provided the standard was specific enough to judge that it was being diminished and could be made objectively.

In other words, what Washington wants is what India calls 'economically driven regulation packed in green paper', an insidious way to keep competition from developing countries at bay. "One way of doing this is to specify standards for either manufactured items or worse still the processes by which the items are manufactured, which developing countries do not have the capacity to meet," Nath said.

For instance, some eco-labelling schemes in western countries give value only to environmentally friendly chemical dyes and ignore natural dyes completely, even though they are equally if not more ecologically sound. "Thus, Asian countries which are major manufacturers, and exporters of textiles cannot earn 'Ecolabels' which should rightfully be theirs," he said.

What India wants is that guidelines should recognise national environmental and economic policies of developing countries and that certification procedures should be

based on internationally approved criteria that would outline guidelines for such certification.

That would leave the formulation of specific standards, testing and monitoring of the application of procedures to local standardisation bodies.

What the West wants is a free run for its multinationals, propelled by their limited environmental concerns.

The problem is not just the West as Kamal Nath laments, "nobody in India takes these issues seriously." Remember the Uruguay Round ?

Joint Statement With Brazil on Environment, Development

BK2602115794 Delhi All India Radio Network in English 0830 GMT 26 Feb 94

[Text] India and Brazil have decided to step up cooperation in the fields of sustainable development and environmental conservation. In a joint statement at Agra last evening, both the countries agreed to continue consultations on the working of the Commission on Sustainable Development and implementation of the framework Convention on Climate Change. The Convention on Biological Diversity, forestry, trade and environment, financial resources, and transfer of environmentally sound technology are the other areas in which consultations will continue.

The joint statement released at the end of the five-day discussions between the minister of environment and forests, Mr. Kamal Nath, and his Brazilian counterpart, Ambassador Ricupero, also speaks of bilateral exchange of scientists, scholars, technicians, and environmental management experts. Both the sides have also decided to cooperate in forest management, including plantation. The statement adds both sides shall jointly seek involvement of multilateral institutions to support bilateral projects as well as joint cooperation with other developing countries in the fields of environment and sustainable development.

Environment Ministers Urge Adoption of Rio Forest Codes

BK2702132794 Delhi Doordarshan Television Network in English 1630 GMT 26 Feb 94

[Text] No unilateral trade action should be taken by any country in the name of environment. This was the consensus arrived at during the two-day international conference of environment ministers. At a joint press conference in Agra, they advocated expanding trade in such a way that it would reduce poverty in areas where it exists and at the same time address environmental concerns. They said the implementation of the forest principles adopted at Rio should be given special attention. The ministers recommended that a special task force be set up in all countries for the sustainable development of forests. The ministers also expressed the hope that the differences of opinion on restructuring and replenishment of the global environment facility should be quickly resolved. Environment ministers from 10 countries including Brazil, China, Malaysia, Germany, and Britain attended the conference along with representatives of leading environmental agencies.

RUSSIA

Ministry Aide Gives Details of Radioactive Contamination

PM0703163394 Moscow TRUD in Russian 5 Mar 94 p 8

[Answer to reader's question from Vitaliy Lystsov, deputy chief of the Russian Federation Ministry for the Protection of the Environment and Natural Resources Main Administration for Ecological Safety, under the "Question-Answer. We Inform, We Advise, We Consult" rubric: "'Spots' on Map"]

[Text] Your newspaper has repeatedly written about radioactive contamination of Russian oblasts. Can they not be listed? (D. Chvilev, city of Vidnoye, Moscow Oblast).

Vitaliy Lystsov, deputy chief of the Russian Federation Ministry for the Protection of the Environment and Natural Resources Main Administration for Ecological Safety, replies:

"They are Belgorod, Bryansk, Voronezh, Kaluga, Kursk, Lipetsk, Leningrad, Nizhniy Novgorod, Orel, Penza, Ryazan, Saratov, Smolensk, Tambov, Tula, Ulyanovsk, and Chelyabinsk Oblasts and the Republic of Mordovia. Eighteen territories in all. But it must be said that the danger to people's health compared with other sources of risk (smoking, for example) is not high here. In the main the level of contamination does not exceed 1 curie per square km. Certain parts of Bryansk Oblast (310 square km) with contamination of over 40 curies per square km are an exception. A total of 17 percent of this oblast's territory is contaminated. The most contaminated territory is in Tula (39.7 percent), Orel (37 percent), Ryazan (13 percent), and Kaluga (11.7 percent) Oblasts, but the contamination there is not great (mainly between 1 and 5 curies per square km). Admittedly, in Tula, Kaluga, and Orel Oblasts there are 'spots' where contamination is between 5 and 15 curies per square km."

Nuclear Reactors From Mothballed Submarines To Produce Electricity

94WN0188B Moscow ROSSIYSKIYE VESTI in Russian 1 Feb 94 p 5

[Unattributed report: "Underground Nuclear Submarines?"]

[Text] That is right. Now in Maritime Kray submarines that have served out their useful life will be dispatched for eternal storage not to the bottom of the sea, but into the rocky soil of the Far East. The kray is short of electric power, to the tune of 400 mwt/hr; where to get the needed capacities? At the same time, 27 nuclear reactors are idle at decommissioned Pacific Fleet submarines; they can still produce electricity but are no longer transportable, plus they cannot be put to sea on rusted-through old vessels.

On the other hand, to simply mount used reactors at existing AES [nuclear power stations] means making oneself a subject of justified criticism of the "greens" and add worries to local population. It has been decided that if these reactors are to serve for the good of the national economy, it is only from underground. It has not been decided yet where the underground AES will be placed: in old mines or specially built tunnels.

Maritime Kray Takes Steps Against Poaching, Export of Endangered Species

94WN0188A Moscow NEZAVISIMAYA GAZETA in Russian 19 Feb 94 p 1

[Unattributed report: "Do Not Play Games With 'Tiger'"]

[Text] **Department 'Tiger'—this will be the name of a new unit in the Maritime Kray Environmental Protection Committee, formed by order of the Russian Federation.**

The department will have special groups for combating poaching, which, together with internal affairs and procuracy organs, will track all violations involving rare and endangered species of animals and plants. Together with customs and border control, they will also have the task of intercepting all attempts to smuggle rare animals out of the country.

This measure was necessitated by growing poaching in the Far East, the object of which, unfortunately, are rare and endangered animals and plants: Amur tiger, white-chested bear, East-Siberian leopard, as well as rare birds and reptiles. They are smuggled abroad—to China and Korea. For instance, according to estimates of ministry for protection of environment and natural resources specialists, over the past two years about 150 tigers have been killed in the Far East forests—and that keeping in mind that at the end of 1980's the total population of this species was about 350.

International organizations also are joining in the fight to save the Amur tiger.

Norwegian Ecologists Report on Problems With Nuclear Subs

LD0603181194 Moscow Mayak Radio Network in Russian 1630 GMT 6 Mar 94

[Text] A Norwegian ecological organization, (?Bellona), has published a report entitled "Sources of Radioactive Contamination in Murmansk and Arkhangelsk Oblasts". Here with the details is Dmitriy Kiselev, our correspondent in Helsinki:

Kiselev: The report's authors, Norwegian researchers (?Niels Denner) and (?Thomas Nielsen), claim they have obtained access to classified information, as a result of which they found out that over two-thirds of nuclear submarines are to be dismantled at the Severodvinsk wharfs near Arkhangelsk. Incidentally, only two nuclear submarines with four reactors have been dismantled and cut to pieces so far. The report from the Norwegian ecological organization (?Bellona) contains a detailed analysis of the plans to prepare the Severomorsk wharfs for the work to come. These include building new dry docks and facilities for removal of fuel elements, extending mooring lines for old nuclear submarines and, finally, modernizing the railway connecting Severomorsk and Arkhangelsk with the Mayak enterprise in the Urals, to which the highly radioactive waste is expected to be shipped for reprocessing.

However, Norwegian researchers claim that not one plan for the refurbishment of the wharfs for such a large-scale and dangerous task as destroying some 150 nuclear submarines has been approved. And this is in spite of the fact that the works were planned for the period between 1993 and 1998. Moreover, it is still hard to establish who is specifically accountable for complying with international agreements

under the START-2 treaty, and also who is ecologically accountable for possible consequences.

Meanwhile, at present many old nuclear submarines no longer on combat duty are dispersed throughout the fjords of the Kola peninsula on so-called temporary mooring, the report authors claim.

Slackness in project drafting, however, is only half the trouble. It has still not been decided with any degree of certainty what is to happen to the reactors to be removed from the submarines—whether they will be dumped in the Kara Sea—as the USSR used to do until 1991—or stored in a special depository in Arkhangelsk Oblast. There is no money for the depository, the Norwegian researchers conclude, quoting official and unofficial replies from those they had talked to in Arkhangelsk and Severomorsk. This means, the authors of the (?Bellona) report conclude, Russia intends to dump several hundred more nuclear reactors in the Kara Sea. (?Niels Denner) and (?Thomas Nielsen) believe that Moscow's refusal to sign the London convention banning the dumping of radioactive waste in the open sea is further evidence of the existence of these ominous plans.

What causes the biggest threat, however, in the view of the Norwegians, is the social unreliability of Russia's nuclear complex. According to their data, the staff of the Murmansk nuclear fleet, the Severodvinsk wharfs, and the Northern Fleet have had their wage payments delayed for several months. It is natural that, under these conditions, the people's attitudes toward their duties may change and the probability of a human error in dealing with radioactive materials increases significantly.

So, now you know about the alarming report that was published in Scandinavia. It is hardly appropriate for a new Russia to find out about itself from its scared neighbors.

Radiation Hazards at Iodine Plant Continue Despite Ruling

PM0703113794 Moscow IZVESTIYA in Russian 4 Mar 94 p 1

[Andrey Aderekhin report: "Thousands of Tonnes of Radioactive Waste To Be Buried at Site on Iodine Plant's Territory"]

[Text] Last August IZVESTIYA reported that the chief medic at the Krasnodar Kray Gossanepidnadzor [State Committee for Sanitary and Epidemiological Supervision] Center had submitted a decree on halting production at the Troitskiy Iodine Plant as of 25 August 1993. This deadline was subsequently put back to 10 October that same year. The plant continues to operate and to add to the gigantic mounds of radioactive waste....

Since after the collapse of the USSR the plant was left as the only one of its kind in Russia, they are thinking about expanding production.

Three years ago, having learned of the situation at the plant, specialists from Gossanepidnadzor and environmental protection departments were dispatched there. They were horrified by the picture that emerged—with natural background radiation of 15-18 microroentgen per hour, in some parts workplaces were "polluted" to the level of up to 500-700 microroentgen per hour, and radiation from the thousands of tonnes of actual waste reached 1500 microroentgen per hour—and the defenders of people's health and the environment sounded the alarm.

Certain measures were taken immediately. Decontamination procedures were carried out at workplaces and on parts of the plant territory, showers were installed, and constant radiological monitoring was set up. But all this failed to attack the root problems. So in the end the chief medic at the Kray Gossanepidnadzor Center submitted a decree on closing the plant down....

We stood with Vitaliy Tereshchenko, the enterprise's chief engineer and expert physicist from the Kray Gossanepidnadzor Center Department of Radiological Hygiene, at the edge of the compound where the plant has started to store sacks full of waste—for dispatch to Rostov-Na-Donu, to "Radon," the nearest specialist combine. Some 4,000 sacks have already been filled here, but the work has been "in vain"—"Radon" has refused to accept even a portion of the waste.

Further into the compound the waste has been neatly placed in sacks, while nearer to us it has just been dumped willy-nilly. Screw nozzles, on which a white salt containing radioactive substances is visible, are like snakes "guarding" the approaches. V. Tereshchenko moves an instrument toward the "snakes." It's really bad—over 800 microroentgen per hour. The sand a couple of meters from the compound is also very "dirty"—575 microroentgen per hour.

Nearby there is a kind of lake into which water is dumped after the production cycle. At the bottom are thousands of tonnes of radioactive sediment.

Some of the water leaks onto the flats. The radiometric device indicates that the water packs a "punch" of 70 microroentgen per hour.

"We have already drawn up several options for setting up controlled waste burial sites on the territory of the plant itself," Oleg Anisimov, deputy chief project engineer of the Russian Federation Atomic Energy Ministry All-Russia Planning and Design Research and Technological Association, says.

As it turns out, setting up a burial site on the plant's territory would take around two years and cost roughly 1 billion rubles. The buried waste will remain radioactive for approximately 1.5 million years. So would we not thereby be planting a kind of "ecological time bomb"?

Plant Director Valeriy Kaygorodov claims that workers at the enterprise have not suffered any particular illness in all these years. However, when the conversation turn to the fact that even world science has made little study of the effects on the human body not of huge but of low doses of radiation, they fall silent and appeal to other experts, saying: We are merely technicians.

Potential Dangers Identified in Saratov Oblast

PM0403105394 Moscow ROSSIYSKAYA GAZETA in Russian 3 Mar 94 First Edition p 8

[Report by correspondent Oleg Zlobin: "'Tsunami' over Volga"]

[Text] Saratov—For the first time the readiness of the Volga city's inhabitants for actions in emergency situations and natural disasters has been checked by a comprehensive

commission consisting of specialists of various ministries, including the Ministry of Civil Defense. Such checks will be held in the very near future in a further nine regions. Basically where nuclear electric power stations are in operation.

The conclusions of experts who spent two weeks making a detailed study of the situation are not reassuring. Over 500 violations were revealed in the oblast. The establishments which present a serious danger include the Saratov hydroelectric power station [GES] across which highways and railroads run. Recently numerous freight trains have been accumulating and standing idle for a long time in front of the giant dam.

The manmade seas—the Saratov and Volgograd reservoirs—also contain an inexorable threat. Their banks are being eroded so rapidly that in a year or two water could descend on the highways, telegraph lines, and oil bases created here. The oil pipeline laid in the thirties has also become a time bomb in the Volga region capital.

The Moscow experts also took a look at the underground gas storage station, the largest in Europe, at the Balakovo nculear electric power station, the "Nitron" and "Khimvolokno" production associations, and many other potentially dangerous establishments of which there are over 150 in Saratov Oblast.

In connection with the change in the form of ownership, at many of these enterprises there has been a collapse of the engineering services which used to keep track of manufacturing discipline and were in charge of civil defense questions.

The tendency toward an increase in accidents has been growing in recent years. Last year over 1,200 emergency situations were recorded in Russia. And we ourselves prepared most of the tragedies. According to Anatoliy Tkachev, chief of the inspectorate of the Russian Federation Ministry for Civil Defense, Emergency Situations, and the Elimination of the Consequences of Natural Disasters, the main reasons for all accidents are disregard for the requirements of industrial and ecological safety, extreme wear and tear on equipment, and insufficient strictness on the party of leaders and supervisory services.

The life and peace of any large city is a hair's breadth away from disaster day and night. That is why a law on the protection of the population is essential in Russia today. And the absence of such a law can also without exaggeration be called the main emergency on a Russian scale.

Environmental Problems in Nuclear Submarine Scrapping

LD0103214894 Helsinki Suomen Yleisradio Network in Finnish 1530 GMT 1 Mar 94

[Text] According to information received by the Norwegian environmental organization Bellona, Russia is centralizing the scrapping of its nuclear submarines in the area of Archangel. The organization says that it has received a Russian report according to which nuclear submarines to be scrapped from the Russian Pacific Fleet are also being brought to a submarine shipyard near Archangel. According to Bellona's information, this concerns 150 submarines which have a total of 278 nuclear reactors. The Norwegian environmental organization assumes that Russia will continue dumping reactors into the Kara Sea in the summer. According to Bellona, this is indicated by the fact, among other things, that Russia did not sign the London treaty banning the dumping of nuclear substances into the sea, which became valid at the beginning of last week. Bellona today published in Murmansk its extensive research report on radio-active emissions in the Kola area.

Conference Discusses Environmental Pollution, Compensation

PM0103133394 Moscow TRUD in Russian 24 Feb 94 Night Edition p 1

[Albert Kozlov report: "Cities Choke"]

[Text] More than 60 million Russian citizens live in conditions permanently in excess of the maximum permissible concentrations of toxic substances in the atmosphere. Every year enterprises discharge more than 30 million tonnes, and motor vehicle transport 20 million tonnes of these substances into the atmosphere. There are 400 kg to every inhabitant of the country.

One-half of our population drinks dirty water. Around 28 cubic km of dirty water are discharged into reservoirs every year.

Participants in the first scientific and practical conference on "Problems of the Rehabilitation of the Population in Zones of Ecological Violations," which concluded in Moscow yesterday, spoke about all this with alarm. It was organized by the International Fund for Socioecological Aid and a number of trade union, state, and other organizations in the framework of preparation for the All-Russia Day of Defense Against Ecological Danger. The assembly discussed draft normative documents on ecological state of emergency and ecological disaster zones and the compensations procedure for damage to the health and property of citizens caused by pollution of the environment.

The conference appealed to the Russian president and the organs of legislative and executive power to adopt urgent measures to fulfill the Russian Federation Law "On Protection of the Natural Environment," drawing attention to the fact that ecological policy should become a component of economic and social transformations.

Environmental Strategy, Sustainable Development Draft Edict Submitted to Yeltsin

94WN0171A Moscow SPASENIYE in Russian No 4, Feb 94 p 1

[SPASENIYE "Own Information" under the rubric "Officially Speaking": "On the President's Desk"]

[Text] As we have learned from reliable sources, waiting for the signature of the president of the Russian Federation is the draft edict "On State Strategy of the Russian Federation for Protection of the Environment and Provision of Stable Development," prepared by specialists of the Russian Federation Ministry of Environmental Protection and Natural Resources, the Russian Federation Ministry of Economics, and the Russian Federation Ministry of Finance, with the participation of other interested ministries and departments and the State-Legal Administration of the president of the Russian Federation. The draft was drawn up in execution of

the government plan of action for 1993-1994 for implementation of the first stage of the program "Development of Reforms and Stabilization of the Russian Economy."

The draft was developed in order to organize constructive interaction among organs of state power at all levels, local self-government, entrepreneurs, and public associations for comprehensive solutions to problems of economic development and provision of ecological safety. It was prepared taking into account the article of the new Russian Federation Constitution which proclaimed the right of each citizen to a healthy environment and also the principles of stable development presented in documents of the UN Conference on the Environment and Development (1992), to which our state was a signatory.

The model for stable development presupposes:

—a balanced approach to solving problems of socioeconomic development and preservation of a favorable condition of the environment and natural resource potential;

—both the restriction and elimination of unviable models of production and consumption and the surmounting of obstacles on the path to the development of entrepreneurship;

—the elimination of distortions in state expenditures and the organization of efficient control, which should link an effective system of state administration to individual rules and capabilities of economic activity in the area of self-government as well.

But, getting away from official language and shifting to one that is generally comprehensible, in brief, the provision of ecological safety of stable development may be defined as the encouragement of environmental protection activity, that is, implementation of a favorable policy in the tax and financial spheres under conditions of development of market relations. In other words, economic activity (new economic policy) should ideally be oriented toward the achievement of economic well-being in combination with Russia's ecological safety.

The main directions of the ecological policy are formed from four sections which encompass, in the first place, problems of justified (that is, without damage to nature or the environment) distribution of productive forces and, correspondingly, everything related to the extraction of resources and salvaging and decontamination of production wastes.

Second, the creation of the healthiest possible living environment for man in cities and rural areas.

Third, the restoration of disturbed ecosystems in ecologically unfavorable regions, of which there are many. This includes also problems of protecting the Volga, Baykal, the Black and Caspian Seas, Lakes Onega and Ladoga, the Neva inlet, regions of the Far North, and also the Kavkazskiye Mineralnyye Vody health complex.

And, finally, there are global problems of the planet, particularly protection of the ozone layer and prevention of climatic changes, protection and restoration of forests, solutions to problems of the World Ocean, and so forth and so on...

Defense Ministry Substantiates Chemical Arms Destruction

LD2602115394 Moscow ITAR-TASS in English 0804 GMT 26 Feb 94

[By ITAR-TASS correspondent Roman Zadunaiskiy]

[Text] Moscow Feb 26 TASS—The Russian Defence Ministry is preparing an adequate substantiation for a Russian programme to destroy chemical weapons.

Commenting on aspects of this programme in Saturday's issue of the KRASNAYA ZVEZDA newspaper, Chief of the General Staff of Russian Armed Forces Mikhail Kolesnikov noted that the Russian Defence Ministry is the state customer of work on the development of ecologically safe technologies for the destruction (utilisation) of chemical weapons.

According to the general, the Defence Ministry uses the principles of openness to choose adequate technologies, discusses, together with representatives from various regions, sections of the draft programme which are of interest to them.

The ministry actively helps the mass media and scientific publications in describing various aspects of chemical weapons' destruction. "The time of taking "hush-hush" decisions has gone long ago," the general staff chief stressed.

According to Kolesnikov, the production of chemical weapons in the former Soviet Union was discontinued in 1987 and has never been resumed. Their stockpiles were not replenished and not updated.

He stressed that the stockpiles of chemical weapons in Russia are under 40,000 tonnes by weight of toxic agents and are housed at seven arsenals specially equipped for their safe and reliable storage.

Russia will carry out the destruction of chemical weapons only at specially built facilities, the location of which will be determined by a government commission set up by the Russian president's decision of 9 August 1993, Kolesnikov continued.

In the general's opinion, "the safety of population and environment is the guiding condition for destruction". For this purpose, the Defence Ministry closely cooperates with regional and republican supervision bodies to conduct monitoring of public health and to take samples from surrounding terrain.

Such work has already been done near the city of Kambarkiy (Udmurtia), in the Krasnopartizanskiy (Gornyy village) and Volskiy (Shikhaniy village) districts of the Saratov region.

Skilled medics are invited to participate in this work. The results of population's medical checkups are reported to regions where this work is done.

Retired Nuclear Submarine Sinks in Vladivostok Bay

OW2702075594 Tokyo NHK General Television Network in Japanese 0300 GMT 27 Feb 94

[Announcer-read report over video; from "NHK News" program]

[Text] It has been disclosed that a retired Russian Pacific Fleet nuclear submarine sank near a wharf in a port on the

outskirts of Vladivostok in mid-February. Although there is no nuclear fuel aboard the submarine, it is equipped with nuclear reactors. As a result, there are fears about the danger of radiation pollution in the surrounding seas.

According to information given to NHK by concerned people in Moscow and Vladivostok, it is a November-class retired nuclear submarine, which was commissioned during the 1960's and belongs to the Russian Pacific Fleet. In mid-February the submarine sunk in water three meters deep near a wharf, where it was anchored, at a ship-repair yard in Tajima Bay [as heard], which is located in eastern part of Vladivostok. The site of the accident is now covered with thick ice. All that is visible of the submarine is its conning tower. The submarine is supported all round by ice so there is currently no danger of it tipping sideways.

There is no nuclear fuel aboard the aging submarine, which was waiting to be scrapped. However, it is still equipped with two nuclear reactors. As a result, concerned people say there is a danger the surrounding seas may become polluted with radiation when the ice starts to melt and the submarine tips sideways allowing water to enter the reactors.

Eight years ago there was an accident, dubbed Chernobyl, in Tajima Bay in the Maritime Kray in which a submarine sank and a large quantity of radiation leaked. There was reportedly an explosion in one of the nuclear submarine's reactors during work to replace nuclear fuel rods.

Government Options for Radioactive Waste Disposal Viewed

LD2402165694 Moscow ITAR-TASS in English 1421 GMT 24 Feb 94

[By ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow Feb 24 TASS—If facilities for recycling liquid radioactive waste is not built in Russia's Far East within the next two months, Russia will possibly have to dump this waste in the Sea of Japan again in order to avert an ecological disaster.

A choice whether to build the appropriate recycling facilities estimated at about $10 million or to dump the waste in the sea is to be made by the Russian Government, according to Viktor Kutsenko, head of the Russian Ministry for Environmental Protection and Natural Resources' Department for Ecological Safety. He also said the government was presently considering a request from the ministry to immediately solve the issue of waste disposal.

Taking into account the current financial difficulties and therefore uncertainty over the recycling facilities project, Russia did not join the London convention on a complete ban on dumping radioactive and industrial wastes in the seas, which took effect from 21 February.

Not acceding to the convention, Russia is losing politically, believes Valeriy Chelyukanov, a senior official at the Russian Federal Service for Hydrometeorology and Environment Monitoring. However, from the point of view of ecological safety, this decision was fully justified. If something happens to the tanker overloaded with liquid radioactive waste, which is now at moorage in the Zolotoy Rog bay near Vladivostok, the environment and people's health will be heavily damaged.

Waste dumping in the sea does not threaten a catastrophe. A high-speed tanker dumps its load in the open sea, and the wastes are instantly dissolved in the water. Taking into consideration the present radioactive contamination of the Sea of Japan, "Russia's supplement" will be negligible and not cause any damage for the environment.

Continued Ecological Destruction of Aral Region, Kyzylkum Detailed

94WN0172A Moscow DELOVOY MIR in Russian 30 Dec 93 p 5

[Article by Ibragim Buriyev, secretary of the Social Progress Party of Uzbekistan: "Kyzylkum: An Ecological Chernobyl Not Far Away"]

[Text] The expedition ARAL-88 traversed the channels of rivers that flow to the Aral Sea. It was composed of ecological scientists, writers, journalists, lawyers, economists, medical personnel, and agricultural specialists from various republics of the former USSR. A great deal was written about this in newspapers and magazines. Television showed frightful film clips of seagoing vessels in the desert sand...

Five years passed, and in 1993 it was decided to verify whether anything at all had been accomplished with respect to the commitments once made by the heads of the Ministry for Water Management and the secretaries of the Central Committees of the Communist Party of Central Asian republics and appropriate oblast committees. The result was depressing: Exactly nothing had changed.

The fact that the Aral Sea is gradually drying up, turning into a desert whose dust is scattered over thousands of kilometers, has already become a commonly known, dreadful reality. But no one has as yet seriously raised the question of just what man is doing with the desert. And something horrible is happening! Countless lakes have been formed in Kyzylkum into which water discharges saturated with toxic chemicals and fertilizers flow off from reservoirs. This water penetrates the sand and goes into wells from which the residents of the desert, livestock breeders, drink and provide water to their livestock.

Still greater destructive influence on the desert's ecosystem is being exerted by the mining and metallurgy industry. For more than 30 years now uranium, gold, and other metals have been extracted in these parts. In the region of Uchkuduk alone, more than 1.5 billion cubic meters of earth has been turned over, shoveled up. The area is strewn as well with mountainous heaps containing unextracted radioactive isotopes (radium, radon) whose dust is carried by the wind.

Funds for land reclamation were built into the cost estimate. In time, however, it was decided to use these very funds (!) to lower the cost of extraction. Developers of the technology involving the underground leaching method for extracting uranium have time and again received state awards and prizes. Among those awarded is Academician B. Laskorin, in whose view the method is ecologically clean. Doubting this, I—at that time a worker in the party apparatus—asked him to officially confirm the ecological safety of the method. The academician refused. Even at that time, information reached me from other scientists that with the application of this method, a minimum of 20 percent of sulfuric acid remains in the underground seams. The desert's subsoil waters have been the first to suffer from this—transformed

over time into little reservoirs of sulfuric acid poisoning the living desert around them. In the meantime, it is well known that these underground waters constitute precisely the main source of water in Kyzylkum.

A similar situation has come about with respect to the extraction of gold. Academician Laskorin has declared its technology as well to be ecologically clean, self-contained, and safe. "Any harmful influence to the environment can be ruled out—there is a minimum of airborne discharge and the complete absence of any kind of sewage"—these are the words of the academician.

But can we agree with such assurances? For over 24 years now, gold has been extracted from the Muruntau Mine near Zarafshan. The cost of extraction in 1970 was only about 3 rubles per gram. The fact of the matter is that it never even occurred to anyone to include in this cost expenses related to damage inflicted on the environment—sodium cyanide comprises part of the "waste" of this process. (It was also originally envisaged that the ground would be protected from penetration by this toxin—disposal channels were supposed to be covered with concrete on top of double-layer synthetic sheeting. About 1 million square meters of sheeting was purchased to this end, but it never used for its intended purpose—no one knows where it disappeared to.) Toxic pulp was poured off into low-lying areas, precisely where a geological fault line runs...

Gold reserves located in Uzbekistan amount to approximately 4,500 tonnes. Over the past quarter century, more than 1,000 tonnes of gold have been extracted from Muruntau alone.

The government presently intends to double the output of gold. This means that in about 10 years, only half of the republic's gold riches will remain, and in another 20-30 years virtually nothing will remain of this precious metal which nature has so generously provided the land. In this regard, whereas in Russia and a number of other republics of the former USSR an active process of reorganization of the economy is underway, no fundamental changes in this sphere have taken place in Uzbekistan over its two years of independence. The same state enterprises remain, virtually the same ruling cadre are there. There is not even any talk about privatization of enterprises, etc.

Accordingly, all precious metals and raw material resources being extracted will continue to go, as before, toward filling up holes and attempts to keep the unhealthy economy afloat.

But let us return to Kyzylkum. Everyone now knows full well that for over 30 years the USSR Ministry of Medium Machine-Building exercised absolute rule in this region. This ministry was a state within a state and operated under the stamp "Top Secret." It is this monster of developed socialism that did everything it desired in Kyzylkum.

The ministry passed away, but the ecologically unsophisticated technology fostered deep inside it continues to function...

And one more example of man's "creative" activity in Kyzylkum—the fate of the Gazli natural gas deposits opened up more than 40 years ago.

Transcontinental gas pipelines were laid in record short time: Bukhara-Urals and Bukhara-Center. Gas was pumped at such a rate that the deposits are today depleted. At one time the center (Moscow) promised to build the most beautiful city in the country here. But the sum total of what the people of Gazli received in payment for their labor comes to three destructive earthquakes, arising due to sharply reduced gas pressure in the underground seams. Moreover, thousands of rural inhabitants who live near Gazli to this day are unable to have natural gas piped through to their homes.

Imperial ideologues often reproached Uzbekistan for subsisting on budget grants, of dependency. But since 1969 over 1,000 tonnes of gold has been shipped to the center and Uzbek uranium has been transported to the Union for more than 30 years. All this took place and continues to take place at the cost of ruthless plunder of the desert. We are taking everything that is possible and even the impossible away from Kyzylkum and the Aral region, destroying fauna and flora, irresponsibly using up the wealth we should be leaving to our children. In the pursuit of exhaustible natural resources (gas, gold, uranium), we are sacrificing our sources of inexhaustible resources (karakul fur, livestock, water, etc.).

What are we returning to nature in exchange for its riches? What inheritance are we leaving to our children and grandchildren? Arsenic? Cyanide? A ruined environment? A damaged genetic pool?

I posed these questions back in 1978 before the Central Committee of the Communist Party of Uzbekistan and before the CPSU Central Committee, but these difficult issues remained unanswered at that time.

I provided very detailed information to visiting officials from the center concerning the tragedy of the Aral Sea, its environs, and the desert of Kyzylkum. But these people were completely uninterested in the misfortune and needs of the region.

Instead of resolving ecological problems, they joined with investigators from the center under Ligachev's leadership and busied themselves with "putting things in order," deciding whom to arrest, exclude from the party, etc., and when. We do not yet know the full extent of the physical and moral damage inflicted upon the republic by such "landing force contingents."

Kyzylkum is an astonishingly rich area of our republic. The desert lacks only forest—it possesses an abundance of all other environmental resources. But in those places where just five years ago at least camel's thorn bloomed, today nothing grows. Inhabitants of the Central Asian republics have been sensing a change in climate for several years now. The Aral was talking to them! People's continued lack of action is both dangerous and criminal.

In previous times, citing secrecy considerations, the Ministry of Medium Machine-Building stood in the way. Time and circumstances forced us to develop the desert production of defense-oriented output. But now that the Cold War has ended, the empire has collapsed, and the newly independent republic is not in a state of military confrontation with other states, the time has come to change priorities, correct previously committed mistakes, and effect transition to the extraction of mineral resources using ecologically acceptable technologies. The tragedy of the Aral Sea and its environs lies partially on the conscience of the current leaders of countries of the region (many of whom occupied

high-ranking and key positions previously as well in their republics). It is they who are obliged now to join forces, organize an all-encompassing study of the problem, and conduct immediate large-scale measures to save the Aral region, to improve the ecological environment and people's living conditions. Moreover, the scientific-technical potential and resources of the entire world community must be involved in this.

The desert has not yet become a dead zone. It still has its plant and animal world, and has been settled with people from time immemorial. But it is quite vulnerable and can easily be transformed into a truly lifeless space. It is impermissible for us to forget the frailty of the world of nature that surrounds us. Today's indifference to the tragedy of the Aral Sea and its environs, and to the problems of Kyzylkum (and of Karakum as well), is dooming us and our children to a new, ecological Chernobyl.

Japan To Deliver Liquid to Process Radioactive Waste

LD2302201894 Moscow ITAR-TASS in English 1657 GMT 23 Feb 94

[By ITAR-TASS correspondent Vyacheslav Bantin]

[Text] Tokyo Feb 23 TASS—Japan will deliver Russia a unit for processing liquid radioactive waste, and render financial assistance in the construction of a 7,000 cubic meter special reservoir for toxic materials in which waste products will be stored until the unit is put into operation.

According to well informed sources involved in the implementation of these two projects designated to prevent further discharge into the sea of low radioactive waste by Russia, an agreement on the delivery, installation of the unit and financing the construction of the reservoir has been reached in principle between Russia and a large Japanese corporation which will be carrying out the projects.

Ministry Concerned Over Damage Due To Pesticides

PM2402093194 Moscow SELSKAYA ZHIZN in Russian 22 Feb 94 p 1

[ITAR-TASS correspondent M. Karlov report: "So Who Exactly Is Poisoning Us?"]

[Text] A conflict situation has now arisen in Russia because of the purchase and use of of foreign pesticides which have not undergone expert ecological and toxicological analysis. Over 500 domestically produced pesticides are authorized for use as it is, and counting all their various compounds and forms the figure runs into several tens of thousands. Every year the list of authorized pesticides is augmented by new preparations. This information was heard yesterday at a collegium of the Russian Federation Ministry of Environment and Natural Resources.

Numerous research studies have shown that persistent stable pesticides are accumulating in the soil, ground sediments, plant-growing products, water, and living organisms. As a result various illnesses have arisen and the reproductive functions of people and animals and the functions of their genital organs have been disturbed.

All this is not surprising, because around 100,000 tonnes of unusable pesticides have accumulated at Russian Federation Ministry of Agriculture and Foodstuffs depots alone, and the problem of disposing of them has still not been solved. Fish are dying as a result of poisoning. For example, two years ago two million fish died in the Mechetka River (Rostov Oblast) alone—pike, roach, perch, carp, and silver carp. For the same reason insects—the pollinators of plants—are dying, and this is greatly reducing the yield of agricultural crops. It is no accident that in 1992 almost 1,000 violations of environmental protection requirements were detected.

ROK Spokesman on Russian Nuclear Waste Issue

LD2402121894 Moscow ITAR-TASS World Service in Russian 1025 GMT 24 Feb 94

[by ITAR-TASS correspondent Ivan Zakharchenko]

[Text] Seoul, 24 Feb—The government of South Korea has received no notification from Russia that it will continue to dump its nuclear waste in the Sea of Japan unless it receives financial aid to build facilities for recycling this waste, an ITAR-TASS correspondent was told in the department for environmental protection of the Foreign Ministry of the Republic of Korea.

The department's spokesman denied a report of the South Korean agency YONHAP, published on Wednesday, quoting anonymous sources as saying that the Russian Government has allegedly told Seoul and Tokyo that it will inevitably dump into the open sea the nuclear waste from atomic submarines unless other ways of its disposal could be found. The agency claims that the Seoul government does not even consider offering material support to Russia in building facilities for recycling this waste because the question of recovery of Russia's arrears in repaying South Korean credits has not yet been resolved.

In this respect, the representative of the South Korean Foreign Ministry said that these allegations "do not reflect at all the real stance" of the government of the Republic of Korea. The possibility of offering help to Russia is now being considered, he said, refusing, however, to go into further detail. According to him, such reports divorced from reality, which appear in the South Korean press, "bring nothing but deterioration of the relations between the two countries."

More on N-Waste Dumping Dispute With Japan, ROK

PM2402131994 Moscow IZVESTIYA in Russian 24 Feb 94 p 3

[Sergey Agafonov report: "Seoul Not Giving In to Moscow's Blackmail"]

[Text] Tokyo—The problem of the Pacific Fleet's radioactive waste has once again taken center stage in Japan and South Korea.

The prologue to this "renaissance" was Russia's refusal to join the international ban on dumping toxic waste at sea. Tokyo has assessed this action as a sign of preparation for new dumping operations in the Sea of Japan. The government's environmental protection agency has issued a special statement on this subject.

Things did not end there, however, being continued in a rather spicy way. Citing government sources, the South Korean news agency YONHAP reported that the Russian

side has sent an unprecedented notification to Seoul, formulated in the style of mild blackmail, according to Korean assessments. The Russian document, the agency writes, sets forth the following alternative: Either Seoul, together with Tokyo, immediately provides money for the construction of land-based capacities for the processing of the Pacific Fleet's radioactive waste, or Russia dumps another portion of toxic muck, generated by 150 nuclear submarines in its fleet, in the waters of the Sea of Japan.

At the official level, the Korean side has announced that at present it does not intend to allocate any additional funds for erecting land-based purification and processing installations. At the same time, Seoul has stressed that there can be no question of new credits for Russia until the problem of the existing major Russian debt is resolved.

Serious Consequences Foreseen in Possible Disbandment of State Committee

94WN0171B Moscow SEGODNYA in Russian 27 Jan 94 p 9

[Article by Dmitriy Frolov under the rubric "Drama": "The Disappearance of the State Committee on Chernobyl Will Be a Shock Not Only to Its Supporters. 70 Percent of the Residents of 'Contaminated' Areas Need Social Protection"]

[Text] It seems that in the near future the State Committee of the Russian Federation on Social Protection of Civilians and Rehabilitation of Territories Suffering from Chernobyl and Other Radiation Catastrophes, called simply Goskomchernobyl, will cease to exist. Along with other committees of a similar rank, it is a part of the GKChS [State Committee of the Russian Federation on Civil Defense, Emergency Situations, and Recovery from Natural Disasters]. Quite understandably, this disturbs the workers, although not all of them, of course. Not the workers but interested individuals, of whom there are many times more, are disturbed by one extremely significant aspect of this departmental cataclysm. The GKChS does not intend to take the administration of social protection under its "mantle." Thus the main function of Goskomchernobyl will atrophy to a significant degree—it will have to be performed by the Ministry of Social Protection, which has enough problems of its own without orphan children and the elderly.

Plenty has been said about the "Chernobyl" benefits and payment increments. It is clear that they are very costly and will continue to be costly. Experts of the Ministry of Finance think that in 1994 alone payments will exceed 1 trillion rubles [R]. Many are eager to raise a dispute over this material and financial aspect. Many fewer are willing to discuss the social, not to mention the psychological aspects. But workers of the Department for Studying the Medical and Psychological Consequences of the Disaster at the Chernobyl Nuclear Power Plant of the State Scientific Center for Social and Judicial Psychiatry imeni Serbskiy think that as of the present moment these aspects are the main ones. The newspaper SEGODNYA has already written about the higher level of neurotic symptoms discovered by these researchers among the population of the contaminated areas, caused primarily by the extremely contradictory information about the scale of the danger. The masters Freud and Bekhterev back in their day noted that increased receptivity to suggestion and the preference of rumors over official information are typical of mass psychology. Under Soviet conditions it was quite predictable that these features would be hypertrophied and become a way of directing perception. Another thing was surprising: Despite expectations, in time the consequences of stress did not disappear, although none of the people residing in the affected territories could experience any apparent results from the action of small doses of radiation. Actually, it was the latter circumstance that contributed to a situation where stress became chronic. In this case the "Soviet consciousness" does not come into play. The same thing happened with Americans after the disaster at the Three Mile Island (TMI) power plant in 1979. One can understand why it was that six years later when a reactor in good repair was started up at Three Mile Island the indicators of alarm and depressive disorders there increased.

It is not so obvious but nonetheless a fact that the most diverse stress loads which have nothing to do with the radiation danger can just as successfully aggravate nervous disorders and all the quite physical ailments that go with them. In the opinion of the leader of the Department for Studying the Medical and Psychological Consequences, Galina Rumyantseva, social and economic factors are undoubtedly included among these "starters." It goes without saying, of course, that macroeconomics does not rank high among them. For example, it was discovered that mass deterioration of the psychological and, correspondingly, physical condition was brought about by delays in payment of wages, which are now commonplace. But one need be neither a medical expert nor a psychic to imagine the dynamic evoked by the abolition of compensatory payments. Incidentally, this has already begun. Benefits for people living on areas with background indicators of radioactivity of from 1 to 5 curies per square kilometer have been eliminated. The rest, whose future became uncertain, immediately started to feel worse.

There would hardly be any point to thinking about all that was said above outside the environment of psychologists and psychiatrists. Unfortunately, the consequences can (and this is precisely what happens most of the time) be outside their professional competence. There are 2.6 million Russians living in zones of radioactive contamination from the disaster at the Chernobyl nuclear power plant alone, and 2.2 million of them are receiving benefits and additional payments. Incidentally, the average level of wages in these regions was deliberately lowered since it was assumed that the additional payments, which now come to about four times the minimum wage, would serve as an additional source of income. And the level of health of the population cannot even be compared with that in the so-called "clean areas": Control studies showed that the incidence of vegetovascular dystonia and functional disorders are 10 times greater in Novozybkovskiy Rayon than in Tver, where out of every 10,000 studied, only three were affected.

And so medical experts warn that abolishing the benefits will lead to a clear negative reaction. When it follows from this that millions of people will actually be "excluded" from life and more than 10 oblasts along with them, there is something to think about. Actually, there will be nothing unexpected in their behavior—almost from the very beginning of the Chernobyl saga these people were bearers of so-called rent psychology which, to be truthful, was imposed upon them. Its main feature is social passivity and a desire to place responsibility for their well-being on others. There

is no need to go into detail about the possible consequences of such a world view: Practically every post-Soveticus manifests it to one degree or another or else has been fortunate enough to rid himself of it only in the recent past. Among the sufferers, access to benefits was a measure of success in life even irrespective of their actual value. For example, it would never occur to anyone that to send children to vacation in Australia—at the expense of their hosts, of course—would mean to give them at least another annual dose which they would receive during the flight. Incidentally, it would be naive to think that transoceanic voyages and foreign diagnosis are available to all residents of the contaminated territories. Near the rayon center of Novozybkovo there is a village called Zlynka. It is a rayon center too, although, according to testimony from people who have visited there, one gets the impression that the distance between it and Novozybkovo, which is visited by foreigners, is not 20 km but at least a half century. And our achievements if not at cleaning up then, as the physicians express it, in coping with the consequences of the disaster suffer from such contrasts as well. On the one hand there is our fairly successful policy of resettlement which, in the opinion of specialists in any case, surpasses similar actions taken in Belarus and Ukraine in terms of many parameters, and on the other—there is the absence for seven years in a row of reliable information on the doses received by the population. We still have not conducted an individual study of the residents. Of course, this is difficult work, but the majority of medical experts have no doubt about the need for it: It has repeatedly happened that on fairly clean territories there have been random people who have received a considerable dose of radiation. The prospects look fairly grim. It seems that only psychiatrists and psychologists have clearly formulated their ideas about them and, being specialists, in spite of the well-known Prutkov aphorism, they do not want to be one-sided like a gumboil and are hoping for cooperation from their colleagues. For example, endocrinologists, since increased pathology in this area is inevitable. It is too soon to close the question of the effects of small doses of radiation as well—thus for a long time allopathists have closed their eyes to the homeopathy but it still has not ceased to exist.

So far medical experts have been engaged in organizing a kind of assistance for which there was an obvious need. Some 70 percent of the residents of the contaminated territories were in favor of organizing a sociopsychological service there. The first and, from all appearances, last center will begin to operate in the next three months. Funds have been allotted by Goskomchernobyl for a year—the center's subsequent destiny is unknown. But it is known that the network of such institutions for children has remained, as it were, in the planning stage. Incidentally, they, along with their mothers, are in the risk group. Also included are educators and local medical personnel. The latter, true, might be, as they like to put it, "compensated." But this can hardly be said about the majority of residents of "contaminated" rayons, who have perceived the disappearance of Goskomchernobyl as a loss of a protector. It seems that this time the supporters of shock therapy have allowed an overload.

CW Plant Behind Schedule; Environment Threat

PM1802113994 Moscow IZVESTIYA in Russian 18 Feb 94 First Edition pp 1-2

[Unattributed report: "Chemical Weapons Threaten Volga Region. Deadline for Their Destruction May Not Be Met"]

[Text] Saratov Oblast—Around now a terminal was to have been built on the banks of the Volga in Saratov Oblast to strip out [peretarivaniye] chemical agents from their containers [yemkosti] and subsequently detoxify them. That at least is what the draft first stage of the state program for the destruction of chemical weapons envisages. However, local residents, worried by leaks at stores that have been here a long time, have sounded the alarm and are objecting to new installations with this kind of specialism.

Russia's president signed the Paris Convention on the Prohibition of Chemical Weapons a year ago, in January 1993. According to the Convention, the first installation for the destruction of chemical agents must be tested within two years at most. Half this time has already elapsed and Russia still has no laws, no concept, no approved state program for chemical weapons destruction. Meanwhile leaks of poisonous substances from containers that have eroded have been recorded at the arsenal sited on the territory of Saratov Oblast.

The village of Gornyy, where 690 tonnes of mustard gas, 225 tonnes of lewisite, and 210 tonnes of their compounds are stored, is not far from the Volga. The chemical weapons that have been here for ages, packed in metal barrels and railroad tankers, pose a potential danger.

The strength of the harmful chemicals will be reduced by a factor of 1,000-10,000 when the chemical agents are stripped out at the new terminal. The plan is to reprocess the reactive matter obtained in Shikhany, 100 km from Gornyy, where the top-secret State Institute of Organic Synthesis Technology [SIOST], which developed chemical weapons in the recent past, is located.

Doctor of Sciences Aleksandr Kochergin, the institute's director, said that several technologies have been developed for the destruction of the stocks from the arsenal in Gornyy. Whereas the situation is clear with regard to the mustard gas, a choice has not yet been made with regard to the lewisite and its compounds. In the opinion of SIOST scientists, the most preferable option is for this kind of chemical agent to be recycled [utilizatsiya] since it contains costly arsenic used in microelectronics, laser technology, optics, and pharmaceuticals. In other words, the recycling technology presupposes not only expenditure on chemical weapons destruction but also considerable income from the reprocessing of chemical agents into particularly pure arsenic, which Russia does not currently produce.

This technology can also be used to recycle arsenic-containing adamsite—an irritant chemical agent produced early this century, which has been shipped to Shikhany from throughout the former Union—of which more than 8,000 tonnes have been buried straight in the ground at the testing range of the military institute next to SIOST. The huge Russian adamsite dump is a source of great worry not only to the public but also to scientists, who are voicing misgivings over the possible environmental contamination from these stocks.

It may seem to the uninitiated that there are no particular problems with the destruction of the Saratov arsenal. It is only the choice of technology and the construction of a terminal and recycling installations that are holding things up. However, one must not forget that we are talking about chemical weapons, which are to be destroyed in densely populated areas right next to the Volga. This is a very

sensitive subject for the residents of the area since the environmental background here is unfavorable enough as it is. In the city of Volsk, for instance, which is no more than 5 km from Shikhany as the crow flies, the arsenic content in the soil is already several times in excess of the maximum permissible concentrations owing to three local cement plants using so-called pyrite cinders, which contain arsenic, in their manufacturing process.

ARMENIA

Reported Plan To Burn Nuclear Waste in Karabakh Refuted

NC0403220494 Yerevan SNARK in English 1503 GMT 4 Mar 94

[Text] Yerevan, Mar 4 (SNARK)—Levon Zurabyan, the acting press-secretary of the Armenia's president, refuted today information of some mass media that Armenia "is going to use the Azerbaijani territory occupied by Karabakh for burning radioactive waste of the Armenian nuclear power station". He called these rumors a propaganda trick.

In the interview to the SNARK reporter, Mr. Zurabyan expressed an opinion that such rumors are spread out in order to prevent renewing of the Armenian nuclear power station's work and thereby not to allow Armenia to have an independent energy source.

Meanwhile, as he pointed out, by spreading out, Azerbaijan makes a vain attempt to prove that Armenia infringes on the Azerbaijan's territory and even is going to use it for own purposes.

Mr. Zurabyan said that absurdity of these statements is obvious.

ESTONIA

Ministry Releases Report Assessing Environmental Damage

WS2802193394 Tallinn BNS in English 1648 GMT 28 Feb 94

[Text] Tallinn, Feb 28 BNS—The Estonian Environment Ministry released a report according to which environmental damage last year amounted to 6.2 million kroons. The sum of compensation for it reached 1.8 million kroons.

Damage to forest accounted for 5.4 million kroons and a 1.2- million-kroon chunk of the compensation money went to make reparation for it.

The sum covers only the damage caused to the state and the local governments, but not the losses of private persons.

Estonia lacks an integral system of forest supervision and nature conservation in general, Henn Alton, Environment Ministry's deputy chief conservation inspector, said at a press conference.

Regional nature preservation work rests on enthusiasts with long experience. In the future it may become impossible to find experienced workers because of low pay and lack of equipment, Chief Inspector Heiki Nurmsalu said. Local budgets are at present short of funds for buying special technology without which a conservation inspector's work is impossible, he added.

The Sea Inspectorate registered last year 1,118 violations of fishing regulations, which caused damage to the tune of 188,000 kroons; 114,000 kroons was recovered in compensation.

The inspectorate has joined forces with the Border Guard Department and the Police Department to protect fish resources and water bodies, inspectorate head Aado Luksep said. As a result, a satisfactory situation in fish protection in East Virumaa, for example, has been achieved, he added.

Head of Environment Ministry's radiation and atmosphere department Jaan Saar voiced the opinion that radiation control on the border needs to be stepped up to prevent import of radioactive metal into Estonia.

LATVIA

Commission To Tackle Skrunda Radar Station Problems

LD2302124894 Riga Radio Riga Network in Latvian 1100 GMT 23 Feb 94

[Text] The Council of Ministers of Latvia has decided to set up a commission to tackle environmental, health, and social security problems related to the functioning of the Skrunda radar station. The main task for the commission is to determine measures that are needed to tackle the aforementioned problems and to organize their implementation in cases also involving the need for foreign assistance. In addition, the commission will also coordinate the actions of the institutions of state administration aimed at tackling specific issues related to the Skrunda radar station.

The chairman of the commission is Girts Lukins, Latvian minister for environmental protection and regional development. It also includes Edvins Inkens, minister without portfolio, representatives of the Ministry of Welfare, the Ministry of Foreign Affairs, the Ministry of Defense, and other government departments, as well as health care employees.

UKRAINE

New Year's Pipeline 'Disaster' Result of 'Irresponsibility'

WS0403152394 Uzhgorod SRIBNA ZEMLYA in Ukrainian 15 Feb 94 p 2

[Report by Iryna Andriychuk and Oleksandr Havrosh: "New Year 'Oil Presents' From Santa Claus"]

[Excerpts] Who said that Ukraine lacks oil? At least, on New Year's Eve, our state literally poured diesel fuel to Slovakia. However, it was not our fault. An accident on the oil pipeline close to Polyana in Svalylavskiy Rayon became a real ecological disaster and caused a fuss around the world. [passage omitted]

Some time ago, this pipeline secretly met the requirements of the defense industry of the Council for Mutual Economic Cooperation. Its headquarters is still located in Samara [in Russia], while its Transcarpathia Department is situated in Rovno [in Ukraine]. This department has two oil reservoirs—in Dubrinichi village (Perechinskiy Rayon) and Rososhi village (Svalyavskiy Rayon).

At 1500 on 30 December 1993, Samara began pumping oil under very high pressure. It is clear that a handmade pipe collar broke and diesel fuel made its way to Europe by way of the river.

Unfortunately, the accident took place on 31 December, on New Year's Eve, when all the personnel were deep in thought sitting around the table. The State Department for Environmental Protection did everything possible to mobilize as many people as possible into action. [passage omitted]

An enormous oil spill spread for kilometers and eventually crossed the state border. People who saw the Latoritsa River at that time, witnessed a terrible sight. The entire river was covered with foam and a layer of oil.

Though the State Department for Environmental Protection phoned everyone, everywhere, the officials in Chop were not quick enough in closing the water-intake valves from the river. This was how diesel fuel got into the city water system, making the water unfit to drink.

Even on 9 January, the Latoritsa River near Chop was still covered with oil. The environment has been irreversibly damaged. The safety measures cost a lot of money. However, this is just the beginning, because we cannot avoid international responsibility for the contamination of the river. The Slovaks promised to hold back, but this oil slick continued on to Hungary, so when Budapest makes out a bill to Bratislava for damages, we will have to pay it. [passage omitted]

The Prosecutors' Office should put an end to such irresponsibility. Oil and gas pipelines should be properly guarded. This is an axiom. Otherwise, we will have not a flourishing Transcarpathia but a new Chernobyl monster.

Environment Minister Briefs on Visits to Netherlands, U.S.

WS0403122694 Kiev Ukrayinske Radio First Program Network in Ukrainian 0600 GMT 4 Mar 94

[Report on news conference held at the Environment Ministry in Kiev on 3 March, by Edvard Kotenko—passage within quotation marks recorded]

[Text] Ukrainian Environment Minister Yuriy Kostenko invited journalists for a briefing on the results of his official visits to the Netherlands and the United States. The minister was commissioned to visit Haag by the Ukrainian Cabinet of Ministers. In Haag, a memorandum on mutual understanding regarding ecological cooperation was signed. Precisely how can the Netherlands help Ukraine? Although it is a small country, it has much experience in resolving ecological problems. The following was said on this topic by Yuriy Kostenko:

Kostenko: "During the negotiations, emphasis was put on practical activities that are possible given the current situation in Ukraine. An entire range of concrete topics was proposed. First of all, there is ecological management and planning, protection of air, water resources, and protection of nature. Regarding practical implementation of these issues, we agreed to work out so-called pilot or demonstrative projects in each of these areas, meaning projects that could be financed and implemented in Ukraine. Based on these projects, we will be able to teach our specialists and pressure the appropriate authorities, to expand this experience to other territories. What does it mean? For example, regarding the quality of drinking water, we have requested that they help us work out an appropriate project and establish laboratories to control the quality of drinking water. This can be done with the help of money allocated by the Dutch Government. I expect that concrete results of the signing of this agreement will be visible this year."

The second part of the news conference was devoted to Yuriy Kostenko's visit to the United States at the invitation of the Environmental Protection Agency. The minister briefed journalists on meetings with his U.S. colleagues, representatives of the World Bank, the Agency for International Development, and the Energy Department, as well as congressmen. As was emphasized, U.S. state departments expressed their interest in cooperating with Ukraine in the area of ecology, particularly, in establishing modern laboratories, conducting radiological monitoring, controlling the quality of water, reprocessing toxic waste, broadcasting ecological- educational television and radio programs, and developing an information and education center similar to the Kiev-Mohylanska Academy. The U.S. side is planning to allocate $6 million to these modest but, as we expect, fruitful projects.

Greens Demand Dismissal of Environment Minister Kostenko

AU2502122694 Kiev HOLOS UKRAYINY in Ukrainian 24 Feb 94 p 1

[Unattributed report: "Weapons Are a Disgrace"]

[Text] Ukraine's Green Party [PZU] has disseminated a statement in support of the decision adopted by Ukraine's president and Supreme Council on the total renunciation of nuclear weapons.

The PZU believes that clinging to the nuclear "cudgel" could lead to Ukraine's isolation in the world community, and the possession of nuclear weapons today is not valor, but disgrace.

Since PZU members are convinced that the high post of a public figure is incompatible with militaristic mentality, the Greens also demand that Minister of Environmental Protection Yuriy Kostenko, who was against Ukraine's nuclear disarmament, be dismissed from his post.

The PZU statement was also supported by the Ukrainian association "Green World," which is concerned about possible ecological consequences of the careless handling of the technology by the military. Examples of such cases were quoted at the news conference held by the association.

Environment Minister Gives Qualified Support to Nuclear Power

94WN0173A Lvov ZA VILNU UKRAYINU in Ukrainian 28 Jan 94 p 3

[Article by Oleksiy Petrunya: "Yuriy Kostenko: We Are Not Against Nuclear Energy as Such, but ... against Its Present Level of Security"]

[Text] Ukraine needs a clear concept of the development of nuclear energy, worked out on the basis of the world's experience. Yuriy Kostenko stated this in conversation with the correspondent of Ukrinform. He stated that this is the

opinion of his ministry. We have never come out against, and are not coming out against nuclear energy as such, understanding that the future energy security of the state is connected with the employment of nuclear energy. But the level of security of the nuclear power stations evokes concern.

Unfortunately, the minister said, the departments which are responsible for them often follow only their own concerns, and pay attention only to the positive aspects of nuclear energy. Our fundamental goal is to do everything so that all branches of the economy do the least possible harm to people and to nature.

Analyzing the world's experience with the development of nuclear energy, one comes to the conclusion, that it is not as effective as the ministries concerned imagine. And in this, the most telling is the experience of the United States, where the majority of nuclear stations belong to private companies. It shows that the cost of the electricity produced by nuclear power stations is approximately one and a half times higher than that produced by stations which use gas or coal. And this is in addition to the fact that in the United States the equipment is much more advanced than here.

In speaking about the ecological aspect, it is true that if the station functions normally, it ejects into the atmosphere few harmful substances, compared with other energy producers. Nuclear power stations are ecologically cleaner, and their operation does not cause air pollution. This is a plus. But the minus side also cannot be forgotten. Accidents at nuclear stations can lead to disastrous consequences. The Chernobyl tragedy and events at other stations show this.

Yuriy Kostenko emphasized that nuclear energy has to exist, but to act on different principles. That is, to be economically effective and ecologically secure. First of all, a closed nuclear cycle has to be created, which can guarantee a lower level of ecological danger. Another way is the development of less powerful but more effective reactors. In fact, this program is now being studied in the United States. In this approach, new types of reactors can be brought to such a degree of security that, in any sort of accident, ejections of radioactive substances do not go beyond the boundary of the thermal shell. If we choose this way, the development of nuclear energy in Ukraine will proceed successfully. All the more so because we have the industrial base for it, and personnel, and experience. But with all this, we still lack a clear, and well reasoned and calculated concept of its development.

Speaking about the aspects of nuclear energy characteristic of the past year, Yuriy Kostenko pointed out that countries using nuclear power stations have encountered a series of complex problems. One of these is the security of the fuel. Previously, the government took care of this completely, allotting a great deal of money from the budget. Thus, the cost of fuel did not have an effect on the price of electrical energy. But now, when the majority of so called imposed expenses are imposed onto the stations, the price of electrical energy will grow. Another complex problem is connected with the exhausted fuel. It proved to be an especially difficult issue last year. A critical situation developed at the Rivnenska, Khmelnytska, and Zaporizka stations, where the storage areas at the stations were already overfilled. Unquestionably, this situation will force us to consider the necessity of creating national storage areas for exhausted fuel, to seek ways of acquiring fuel at cheap prices, and possibly to organize industries for this in Ukraine.

The Supreme Council of Ukraine has cancelled the moratorium for bringing new nuclear power station blocs on line. I do not think, Yuriy Kostenko said, that it is necessary to bring them all on line. The three which are at the highest level of readiness are enough. I think, the minister emphasized again, that without the development of nuclear energy, though of a higher qualitative level, we will not be able to function.

U.S. To Allocate $6 Million to Environmental Protection

LD0203185594 Kiev UNIAN in Ukrainian 1411 GMT 2 Mar 94

[Text] Kiev—Ukraine's Environmental Protection Minister Yuriy Kostenko on 1 March returned from his working trip to the United States. There, he met representatives of the U.S. Environmental Protection Agency, World Bank, Agency for International Development, Department of Energy, and congressmen. Representatives of U.S. state bodies expressed their great interest in cooperation with Ukraine in the sphere of ecology and examined a package of proposals on steps to be taken as a matter of priority to improve the state of Ukraine's environment, presented by Yuriy Kostenko. Among them, in particular, were setting up some of the most up-to-date laboratories to monitor the radiological quality of water, organizing the disposal of toxic waste, making educational TV programs on ecology, and developing the MinPryrody [Environmental Protection Ministry] informational and educational center. The American side is planning to allocate $6 million to implement these projects. Commenting on this report, the MinPryrody press center added that ecological projects would be financed by the U.S. Agency for International Cooperation. It has long cooperated with Ukraine, and, in particular, will take part in privatization processes. This agency recently opened its headquarters in Kiev. It is this headquarters that will directly support various projects in Ukraine financially and methodologically.

Country's Industrial Waste Said To Occupy 130,000 Hectares

AU0303134594 Kiev MOLOD UKRAYINY in Ukrainian 1 Mar 94 p 1

[Unattributed report published under the rubric "Fact"]

[Text] As reported by Vilyam Zadorskyy, head of chair of chemical and ecological technology at the Chemical and Technological University and president of the Dnieper Region Ecological Fund, Ukraine occupies a leading place in the world in the volume of accumulated waste. It annually processes about 1.5 billion tonnes of natural resources, and two-thirds of them turn into solid waste. Altogether at least 15 billion tonnes of waste occupying a territory greater than 130,000 hectares have accumulated.

REGIONAL AFFAIRS

European Consortium Engaged in Chemical Recycling

BR0103150894 Rijswijk POLYTECHNISCH WEEKBLAD in Dutch 31 Dec 93 p 3

[Article by Gerard van Nifterik: "European Consortium Expands Back to Feedstock Process"]

[Text] DSM [Dutch State Mines], together with four large European concerns, including BP Chemicals, has set up a consortium for chemical recycling. The five companies are to expand a so-called "back to feedstock" process, involving a method developed by BP Chemicals, in which plastic waste mixtures are broken down into oleaginous products. A pilot plant at Grangemouth, Scotland, is already in operation.

The plant in Grangemouth has a capacity of 100 kilograms per hour, and around ten million Dutch guilders have been put into the project. In addition to BP and DSM, the participants are the petrochemical concerns Elf-Atochem, Petrofina and Enichem. DSM primarily conducts research into the products resulting from the process. The company has a small naphtha cracker for that purpose.

Interest in "back to feedstock" methods (or chemical recycling) has increased enormously in the last few years. One important reason is that recycling of different synthetic mixtures produces quite some problems. Such mixtures can almost only be recycled into lean materials which usually end up as flower pots or roadside poles. The market for such products is small and is nearly saturated. A not yet socially acceptable alternative for materials recycling is the recovery of its energy content by combustion.

Smaller Pieces

"Back to feedstock" (or chemical recycling) is a third option. The aim of the technique involved is to disintegrate the polymer material into smaller pieces, in some cases even back to the original chemical ingredients. "Back to feedstock" methods are currently being researched all over the world.

The process which BP and DSM are examining turns the plastic waste into an oleaginous product, from which low hydrocarbons can be produced through petrochemical techniques. It produces a wax-like product which can be used as a starting material for naphtha crackers.

The base material for the BP/DSM process is waste synthetics from household garbage. Before the process can begin, the plastic fragments must be separated from the rest of the household waste. The isolated plastic fragments are then ground into pieces of two centimeter. This granulate is the base material for the cracking process that comes next.

The disintegration, in which the original long polymer chains are broken into pieces, takes place in an fluidized bed incinerator, which is partially filled with sand. When a current of hot air is blown in, the actual fluidized bed comes into being. The waste plastic is thermally crushed at a temperature of between 400 and 600 degrees Celsius, and produces a steam mixture of hydrocarbons. Ninety percent of these gases finally condense into a low molecule wax. The remaining 10 percent are used as fuel which meets the energy requirements of the installation. The remains of additives in the original plastic—such as fillings and pigments—are left behind in the sand. Hydrochloric acids resulting from the crushing of PVC are removed separately.

In general, DSM regards "back to feedstock" techniques as a promising option which, it is true, does not promise a complete solution for the problem of synthetic waste, but which is a valuable partial solution, next to alternative processing methods such as combustion (energy recovery) or material recycling. In 1990 the Netherlands produced 850,000 tonnes of synthetic waste, of which 150,000 was recycled. According to the environmental policy plan, that last quota will have to reach 450,000 tonnes by the turn of the century.

European Consortium Perfects Plastic Waste Sorting System

BR2502091794 Burnham NEW MATERIALS INTERNATIONAL in English Feb 94 p5

[Unattributed article: "High-Speed Sorter for Plastic Parts"]

[Text] A consortium of European companies and research organisations has won a research contract worth nearly Ecu 1.5m from the Commission of the European Communities (CEC) to develop a system for the identification and separation of plastics in mixed waste. The consortium's proposal—submitted under the CEC's Brite-Euram Industrial and Materials Technologies Programme—was awarded an A1 (outstanding) assessment in competition with over 1,250 proposals.

The proposed system has major implications for the efficiency and cost effectiveness of recycling plastics by detecting specially developed 'tracers' added in minute quantities to the various plastics used by the packaging, automotive and other industries. The tracers will be detected by an advanced device using the latest fluorosensor technology.

One benefit of the system is that it is able not only to detect different generic plastics but also to segregate different grades of the same material. The potential for identifying and separating a wide range of different plastics types and grades is virtually unlimited.

The system is unique in being able to identify plastics containing black and other strongly absorbing colours. It is also able to operate with materials which are surface contaminated, the system will also be able to identify and reject specific unwanted materials.

A product of the contract will be a pilot sorting machine; this will be capable of making at least 100 identifications and of sorting plastics at speeds of at least 10 articles/s. Proving trials will take place at a waste management site.

The consortium comprises: Pira International, UK—lead contractor and project co-ordinator; Bayer AG, Germany—will develop fluorescent tracers under its own patent; Cranfield University (RMCS), UK—will develop a sensitive detection system using fluorosensor technology; Newell Engineering, UK—will create handling systems for high speed segregation of plastics articles and construct a pilot sorting machine; APME, Technical and Environment Centre (formerly PWMI), Belgium—responsible for proving the processability of the tracers and the conversion of plastic

containing them into three dimensional articles; and Laboratoire National d'Essais France—responsible for checking the stability of the tracer/polymer systems.

DENMARK

Greenland Home Rule Government on Whaling

94EN0220Z Copenhagen BERLINGSKE TIDENDE in Danish 29 Jan 94 p 3

[Unattributed article: "Greenland Home Rule Government Wants To Manage Whales"]

[Text] The executive committee of the Greenland Home Rule Government wants to have the authority to decide when protected, icebound whales must be killed. Greenland will make this demand at the International Whaling Commission's meeting in Mexico in May.

FINLAND

Forestry Industry's Environment Attitude Viewed

94WN0141C Helsinki HELSINGIN SANOMAT in Finnish 4 Jan 94 p 5

[Article by Aila Kayhty: "The Woodpecker's Nest Tree and the Gnarly Pine Are Still Standing"]

[Text] Savonlinna—An ever-strengthening hum followed the group walking in the deep snow when the line of people got on to Iso-Kankainen Island. "Has any wood at all been harvested here?" the Forest Association men asked jokingly.

Everybody knew well that, during the summer of 1993, 830 cubic meters of wood had been harvested from 7.4 hectares of this Lake Pihlajavesi island containing the summer cabin of Savonlinna resident, Timo Auvinen. Two clear-cut sites of less than 1 hectare had been hid into the interior of the island. The alders on the shores had been left entirely untouched. The logger, Pekka Mielonen, had left the woodpecker's nest tree and the gnarly pine standing.

Timo Auvinen was thankful for this environmental deed of the logging crew. In this way the forestry principles of his father, who died a couple of years ago, were respected. The Forest Association leaders praised Mielonen, who has the skill to harvest wood from the forest neatly and without harming the environment.

Mielonen confessed to having worked in the same manner as he did when working for the corporation for 20 years. "But only now am I starting to get recognition."

Auvinen's forest tract had been selected in an internal Forest Association contest as the target harvest tract for the year. Choosing a privately owned forest for the harvest sent out the message that an effort is being made to teach also the private forest owners friendliness toward the environment. Nowadays every seller of stumpage, the timber or pulpwood from the forest, is offered a harvesting plan in which the environment is taken into consideration.

The majority of stumpage sellers have regarded the offer in a positive way, said Juhani Hongisto, regional chief of the Forest Association's Southeast Finland Harvest Region.

In the Savonlinna Harvesting District 150 loggers were trained last year to regard the little dells and rills in a new way. In the managing of its own forests the Forest Association has followed environmentally sound instructions since already in 1986. Already prior to that operators of machinery were ordered to take care of waste oil.

According to Hongisto, the Greenpeace writings about Finnish destruction of forests forced those with forest interests to promote the current style of harvesting.

Training for Loggers Almost Complete

The big forest products firms—Kymmene, Inc., Enso-Gutzeit, Inc., United Paper Manufacturers, Inc., and the Forest Association—are eagerly promoting the guidelines for the new, environmentally friendly harvesting methods. The guidelines have been drafted cooperatively by the Forest Service, the industry and organizations with interests in the field. The easy-to-understand, picture book-like publications lead the reader to forest scenes where the ants and flying squirrels live happily even after the logger has finished his job.

The key people to contact are the loggers and forest machinery operators. Most loggers are already trained, and training is continuing in some companies this year.

Enso-Gutzeit has earned bonus points for promising to protect marble seal waters from forest harvests and fishing. A decision has been made to relocate the blue-winged ridge butterfly from Satakunta to its former habitat in Ruokolahti. Only biodegradable oils will be permitted in forest machinery from this year on.

One should never belittle the impact of impressions. Erkki Nieminen, Enso-Gutzeit environmental chief, who has just returned from work in Germany, knows that the Central European tourist forms his impressions of the Finnish forests from behind a car steering wheel.

Cooperation With St. Petersburg on Hazardous Waste

94WN0141G Helsinki HELSINGIN SANOMAT in Finnish 31 Dec 93 p 13

[Unattributed article: "St. Petersburg and Helsinki To Begin Environmental Cooperation"]

[Text] The cities of St. Petersburg and Helsinki will begin cooperating on a practical level on protecting the environment. St. Petersburg is especially interested in instituting the treatment of hazardous waste, and the rectifying treatment of canals and sedimentation problems. The hazardous wastes are making the treatment of sewage, among other things, more difficult, as well as polluting the ground in the St. Petersburg region.

Efforts To Halt Chemical Dumping in Baltic Viewed

94WN0141F Helsinki HELSINGIN SANOMAT in Finnish 31 Dec 93 p 2

[Editorial: "Toxins Washed Into Baltic Sea"]

[Text] Treaties and regulations decree how the wash waters of ships carrying chemicals as cargo must be treated. Special inspectors monitor compliance with the stipulations in Finnish ports and violators can be prosecuted. In practice, ships that have no concern in this regard, can dump the wash waters from their cargo space straight into the sea almost without any peril of being held accountable.

The inspectors do not always, not even nearly always, know where to search for concealed wash water. In suspicious cases expert advice is available only during office hours, and the vessels cannot be detained in port merely on suspicion, as is the case in Central Europe. If a violator is occassionally brought to court, the possible fine is insignificant when compared to the profit gained through the environmental crime.

By neglecting to comply with Baltic Sea protection measures, violators take over the markets from law abiding suppliers. The lack of concern by the responsible seafaring and environmental authorities is incomprehensible, considering how an exceptionally fragile marine ecosystem is being polluted.

Finland has obligated itself, together with the other Baltic coastal countries, to prevent and decrease the environmental pollutant burden on the Baltic Sea. Even the mere improvement in conveying information between unloading port and loading port would prevent vessels from matter-of-factly dumping the tank wash waters on their voyage.

Acid Rain Seen Halting Growth in Southern Forests

94WN0141E Helsinki HELSINGIN SANOMAT in Finnish 4 Jan 94 p 6

[Article by Sauli Korpimo: "Spruce Deteriorating in Southern Finnish Forests"]

[Text] Southern Finland's spruce are sick. They grow taller tortuously, shed yellowed needles and dry up standing. The forests are atrophying over even hundreds of hectares. Widespread die-offs of trees have not been discovered, but in almost every forested tract individual, dying trees are found as well as small clusters of dying trees.

"Forests always contain dead and suffering spruce trees, but now there are more than the usual number. What we have here is not trees with stem rot from the top or trees deteriorating from old age. The most worrisome aspect is that even the best-managed forests are suffering," says Olavi Laiho, director of the Forest Research Institute's research station in Parkano.

Until now assurances have been given that the forests will withstand the damage as long as they are well managed.

Height Growth Rate Plunged

According to Laiho, the most visible change is the collapse of height growth rate to near zero levels. Another strange thing is that the trees are very light in weight and fragile; they do not contain water.

Laiho is unable to say what is plaguing the trees. "This is not my field, but I have tried to alert other researchers."

He has suggested that researchers from the Forest Research Institute go look at a deteriorating forest in Hattula that covers hundreds of hectares and ponder how the sick forest should be treated and how the deterioration should be studied.

The health of trees is determined by their needle loss. The method is not considered very reliable. Olavi Laiho suggests that the assesment of a tree's vitality also take note of the height growth, the moisture content of the woody matter, the proportion of heartwood to sapwood, and the changes taking place in the needles.

The drying up of the wood might be taking place because the roots have been damaged so that they cannot draw water, or because the needles are damaged so that the water is lost. Drought does not instantly kill a tree. It lives tortuously for a long time.

"In the world of trees there have not really been changes in any other things besides the contents of the air and rain and possibly in the ground. Variations in temperature and rainfall account quite well for many things, but damages would occur in the same patterns as these causes show. A frail tree becomes ill in an adverse year. In more favorable conditions it would get along for a little while longer. The issue here is: What has happened to the resistance capacity of the trees?"

When he says changes Laiho is talking about increases in air pollution and the impact this has had.

Last summer Dr. Laiho visited the forests of southern Sweden. "They are really in a wretched condition, almost all of them half brown, clearly less healthy than Finnish forests." But Laiho still feels it is the same phenomenon.

Nobody Wants To Believe a Self-Taught Forest Researcher

Hyvinkaa—Might Matti Juhonsalo be right after all? Could it be possible that a self-taught forest researcher might have a sharper eye and more accurate measuring stick than the professors and ministers do?

For years Juhonsalo has transported researchers and politicians in the forests and argued that the talk about good growth in the forests is nonsense. Trees no longer have height growth. Particularly the spruce trees are sick and dry up standing.

He is aware of severely ill forests, for example, in his home parish of Jokioinen, in Loimaa rural parish, in Nakkila, in Karkkila, in Tammela, in Eura, and in all of the parishes of eastern Uusimaa. The biggest contiguous deteriorating area is in Hattula.

Researcher Got Frightened

Juhonsalo has thousands of measurements to back up his claims, but until now no one has believed him. Now Olavi Laiho, the METLA (Forest Research Institute) Parkano Research Station chief, has become frightened by his own observations and Juhonsalo's claims to the degree that he is suggesting the institute research the phenomenon.

METLA has studied the changes in tree growth rates since the 1920's. It has not detected a significant reduction, in fact it has detected the contrary. But METLA measures the thickness of the trunk.

"There is only one true answer to this question: Either the trees are growing or they are not," confirms Juhonsalo. He trusts in his meter stick. "METLA must not have one, since they are unable to measure height growth."

METLA has a tape measure too. In an exception to the usual, METLA measured tbe heights of 161 trees between 1980 and 1991. These trees had grown better than the ones Juhonsalo measured, but their growth, too, has slowed down.

Juhonsalo has measured the height growth of at least 1,000 spruce trees every summer since 1985, often of even 2,000 spruce. The growth has decreased each year except in 1991, when it recovered and was almost one-half of the standard year's growth. During the following year, the growth relapsed clearly again. Last summer the remnant was only 27 percent of the growth during 1985, the standard-setting year.

"How could the trees grow when a big part of the needles have been shed and those that remain are sick," bemoans Juhonsalo.

Zealous and Bold

Olavi Laiho knows about Juhonsalo and his measurements. "Juhonsalo is skillful and talented, a man at least equal to the professor level in his native intelligence. You cannot ignore his measurements. He knows how to measure alright."

Laiho himself is a cautious and conscientous researcher. No errors have been found in his work, and he has not exaggerated.

Juhonsalo is not cautious. He is straight-talking, zealous, and even a little mean. When he gets excited, he lists a lot of politicians and researchers and then calls for the enemy of souls with all of his names.

According to METLA inventories, there is plenty of wood in the forests. All of it cannot even be used. METLA has found a lot of cause to criticize the reliability of Juhonsalo's measurements.

"If I am right, there is not enough wood even for the new mill in Rauma. The inventory of wood reserves has been done wrong, and even what does actually exist is being destroyed fast, but people do not notice anything. How can Minister of Agriculture and Forestry Pura travel from Tammela to Helsinki without seeing all the dying trees?"

Trees Remain Dwarfed

According to Juhonsalo, the growth rate of the trees has plunged rapidly. If this trend continues a tree that is 12 cm thick will not grow to 17 cm in thickness in its lifetime, nor will a tree 2.5 meters tall ever grow to be even 6 meters tall.

Juhonsalo is frustrated when the politicians will not take his observations seriously. There is no desire to even discuss them, and what is worse, doubting researchers try to prove them wrong.

The forests really are deteriorating so rapidly that one will be able to soon determine proof of their poor condition even without a measuring tape. Juhonsalo has marked yellowed trees with colored ribbon. It has taken at most two years for the bark to come loose and for the tree to die. It has happened that a healthy-looking tree has died in just a few weeks.

Juhontalo has felled all of the trees that have dried up standing, the snags, in his own and a neighbor's forest plot. One year later he has found more dead spruce trees in the same places.

"It was never like this before. I have tramped through Finnish forests for almost 50 years so I am qualified to say that."

Nature Group Acts To Halt Cutting in Old Forests

94WN0141D Helsinki HELSINGIN SANOMAT in Finnish 4 Jan 94 p 5

[Unattributed article: "Forest Service Did Not Commence Riuskanselkonen Forest Harvest"]

[Text] Suomussalmi—The Forest Service and the forest activists of the Nature Alliance are finding themselves in confrontation over the planned harvests in the Riuskanselkonen area of Suomussalmi in Kainuu. The Forest Service will not, after all, begin harvesting on Monday [10 January].

About 20 of the Nature Alliance activists went cross-country skiing in the area as they pondered possible future actions. This forest activist group is demanding that the area be closed to all operations and is prepared to interrupt the Riuskanselkonen harvest with various methods.

In the opinion of the Nature Alliance, the Riuskanselkonen area still is, despite the harvests that have already been carried out, a significant wetland and forest entity in the Kainuu environment. The 6,500-hectare region contains two wetland protection zones. The harvests were planned for two areas which have been marked for cutting. The project would have employed 40 loggers and contractors.

GERMANY

Ecobalance Becomes Tool for Decisionmaking

94WN0142A Duesseldorf VDI NACHRICHTEN in German No 1, 7 Jan 94 p 12

[Article by Professor Peter Eyerer, head, Institute for Plastics Testing and Plastics Science (IKP), Stuttgart, under the rubric "Production": "IKP Head Professor Peter Eyerer: 'One-Sided Mentalities Are Not Suited for Solving Complex Environmental Problems'. The Ecobalance Is Becoming a Decision-Making Tool"; first paragraph is VDI NACHRICHTEN's introduction]

[Text] Stuttgart, 7 Jan 94 (VDI-N)—"Avoid Using and Disposing Of" goes a well known motto of the German environmentalists on the way toward the recycling economy. The recycling of materials is accordingly a duty. But Professor Peter Eyerer, a doctor of engineering, wonders whether the devil is not being cast out by Beelzebub here. Together with his team of experts at the Institute for Plastics Testing and Plastics Science (IKP) in Stuttgart, in what follows he advocates the trend that has begun toward comprehensive balancing of the environmental impact of products.

The recycling of used materials into the production cycle is certainly a sensible move toward reducing the quantities of waste that accrue. But if the logistical expense to be incurred or the energy requirement for returning materials to the materials cycle go beyond a justifiable level, the reasonableness of such a course of action has to be examined. This applies likewise to recycling procedures or processes whose consumption of energy and emissions are higher than those of the primary process of producing the material.

Every individual angle has to be weighed here. For this reason a suitable aid has to be developed in order to make transparent and to categorize the individual benefits or burdens: The ecobalance will become a decision-making tool. For it will be possible to arrive at a judgement only by the complete consideration of every relevant aspect, i.e., the technical, economic and ecological viewpoints, and not just from a single-cause viewpoint.

But the ecobalance cannot be a sole aid as an assessment method for environmental aspects. Though it is excellently suited for showing the appropriateness of individual process options, nevertheless it fails when it is a matter of considering the overall model taking economic and technical criteria into account.

For instance, plastics recycling is today largely well masterable technically and sensible when true-to-type clean waste whose composition is known is at hand. But problems arise

when economic limiting conditions, like the recyclate's price compared to the new product, for example, speak against the use of recycled materials. For instance, today 1 kg of polyethylene (PE) from East European countries costs around one German mark [DM]. The comparable product from West Europe is quoted at almost DM1.10 per kilogram. And by contrast polyethylene from recycled material costs about DM2.5 per kilogram today. Is it sensible all the same to recycle popular plastics like polyethylene (PE) or polypropylene? Certainly not at all from an economic standpoint! But the material is indeed too good to throw away, and also too expensive at today's dumping costs. But the consumers or, as the case may be, buyers of plastics users are not willing to fall back on secondary products. Technical specifications are often even worded so that the use of secondary raw materials is not even possible. Of course, with that a sales market at the going price anyway also needs to be able to be obtained. Thermal recycling presents itself, especially for popular plastics like PE and PP. Instead of burning petroleum in the form of heating oil, petroleum in the form of plastics can be burned just as well, only with the difference that here still another mission would be fulfilled as well in the meantime.

But thermal processes are still encountering rejection because of the strong feeling of insecurity among the public. This debate is based for the most part on a large deficiency of information that is attributable on the one hand to the lack of education by operators, but on the other hand also to strongly politically motivated opinion molding. Factual arguments are often too weak in this subject area to get around the emotionalizing of the groups concerned.

Hence comes the need basically to compare all waste disposal and recycling technologies and to examine the suitability of the individual processes for the most different waste products or old components that accrue. Transparency for operators and the public has to be provided precisely here by way of an all-embracing consideration of every aspect. Accordingly, an ecobalance that describes just environmental aspects is not an adequate tool. Rather, the system description has to come after a comprehensive way of viewing the question.

For example, for metals there has been recycling for decades, motivated by economic factors. However, very often there has been no direct recycling (closed-loop recycling) for a particular use, but the recycling of materials in other fields of use (open-loop recycling).

However, there have been strong efforts to recycle for the same use scrap that accrues from primary uses. Far greater success has been achieved here for metallic materials than for polymer materials. But is this effort also really sensible? Why does high-grade steel absolutely have to be remade into high-grade steel? When there is a market for less exacting uses, one has to consider well what expense matches which results.

The problem for metals, of amassing individual particular alloys separately and true to type, is similar to that for plastics. Proportionate expense has to be incurred here too in order to achieve closed-loop recycling.

As are plastics, metals are also used mostly in composite designs and less frequently in pure form. On the one hand it is precisely these uses that result in special problems for recycling, but on the other hand it is also these uses that are distinguished by exceptional property profiles.

But worth the real attention here is the question whether the closed- loop recycling of metallic materials for a particular use is sensible as a principle. A worldwide market for secondary uses, i.e., uses having lower requirements for the materials, has developed over the course of time for metals. The decisive problem to be solved is whether the introduction of the material into a recycling cascade or, as the case may be, the approving acceptance of a putative material assessment generally represents a worse solution.

The answer to this question can be given again only by considering every important influencing factor from ecology, economics and technology. The comprehensive balance will become the valuable aid toward getting a more complete picture of the situation.

One-sided and single-cause mentalities are not suited for solving complex circumstances like the problems of recycling. Firm solution possibilities will be found only via a comprehensive way of viewing the question that includes economic aspects too in addition to the technical and ecological aspects. Comprehensive balances by way of ecobalances expanded in important aspects are such a tool. This decision-making tool must be applied separately for company-, product- and site-specific aspects. In addition, the entire product life cycle must be considered. Sound materials and process decisions can be made only on this basis.

In addition to optimization in the purely materials area, however, work also has to be done on a resource-minimized product cycle for components already at the design stage. In addition to the avoidance of non- disassembly-friendly designs, the use of specific combinations of materials in composite components and the general selection from the diversity of materials has to be thought over, both for polymer materials and for metals.

The advantages and disadvantages of individual options must be submitted to a comprehensive balance already at this early stage of product development, in order to be able to reveal weaknesses in good time or to make sound selection decisions. For this reason the comprehensive balance takes on central importance as a tool in the development process and in simultaneous engineering.

Scientists Call For Reduction of Carbon Dioxide Emission

AU0303153394 Frankfurt/Main FRANKFURTER RUNDSCHAU in German 3 Mar 94 p 4

[Report by Roland Bunzenthal: "Researchers Call For Change of Policy for Climate Protection"]

[Text] Frankfurt/Main, 2 Mar—The reduction of carbon dioxide emissions, which is essential for the protection of the climate, cannot be achieved on the basis of the current energy policy. This conclusion was published by the German Institute for Economic Research (DIW) in its recent weekly report. The Federal Government's objectives for fighting the greenhouse effect can only be achieved through a "comprehensive bunch of measures," particularly a "sizable" increase in the price of fossil energy through higher taxes and rates. After all, by taking inflation into account, the current prices of some energy sources are hardly higher than 20 years ago.

It is Bonn's declared objective to reduce carbon dioxide emissions in Germany between 25 and 30 percent by the year 2005—in relation to 1987. The DIW estimates that approximately 721 million tonnes of carbon dioxide were emitted in western Germany in 1993, which even constitutes a slight increase over 1987. In eastern Germany, however, emissions have been halved since then and are now at a level of about 170 million tonnes—mainly as a result of the "economic slump there."

The DIW criticizes that the "Federal Government's ambitious objective" is inconsistent with "the activities it initiated." While the government announced a considerably stricter insulation regulation, it finally "only adopted a much weaker version of it." What is missing is "a comprehensive promotion by the state" of "measures for the economical use of energy" and a policy of "avoiding transport and shifting transport to systems that are more energy-efficient."

In addition, the DIW complains, the Federal Government is not ready to become active at a national level in anticipation of a European carbon dioxide/energy tax. This would result in competitive disadvantages in the short term but prevent "a major adaption shock in the future."

German Party Calls for Measures Against Dioxin Emissions

BR0403160894 Bonn TECHNOLOGIE-NACHRICHTEN MANAGEMENT-INFORMATIONEN in German 14 Jan 94 pp 3-4

[Text] The parliamentary SPD [Social Democratic Party of Germany] party has called on the Federal Government in a parliamentary motion to present a comprehensive dioxin reduction program to bring together and standardize the laender's dioxin measurement programs for establishing permissible emission and concentration levels. The data obtained from the measurements should be stored in a dioxin database and made public. Mandatory limits based on the principle of prevention should be laid down as rapidly as possible for the main sources of emission, says the SPD. The dioxin sources where dioxins and furans occur as undesirable by-products should be "stopped up." The deputies thus recommend a schedule for phasing out the use of hexachloroethane in the aluminum industry, close compounds involving chloric paints, lacquers, oils, and lubricants in the metal industry, chloric cooling lubricants and cleaning agents in metal working, and halogenated organic coatings such as PVC [polyvinyl chloride] or chloric materials for chipboard and wood products. Products containing halogenated organic compounds should be labeled accordingly, states the motion, which also calls for dioxin to be banned from recycling.

The call above all is for a ban on close compounds containing chloric materials in the automobile industry, for instance PVC undersealts, and in cable sheaths. Dioxin concentration limits should be laid down for agricultural and horticultural areas so as to avoid it being transferred to human beings via animal and vegetable foods. At the European level, the Federal Government should press for this dioxin modification program to be made binding throughout the European Union.

Toepfer Denies Neglect in Toxic Waste Export to Albania

LD0403175794 Berlin DDP/ADN in German 1503 GMT 4 Mar 94

[Text] Bonn/Hamburg (DDP/ADN)—Environment Minister Klaus Toepfer has rejected criticism from the environmental organization Greenpeace in connection with the export of 480 tonnes of pesticide toxic waste to Albania. There is "nothing to hide" in this matter, Toepfer said today in Bonn. The Hanover firm of Schmidt-Cretan has exported pesticides from the former GDR to Albania as "humanitarian aid" from 1991 to 1992.

Greenpeace accused the Environment Ministry of "hindering the due process of law." An experts' report last year spoke of an "explosive risk situation" and recommended that the German Government see to the "immediate securing" of the toxic waste freight. Neither the German criminal investigation authorities nor the Albanian authorities were given access to the report.

Toepfer said that the Lower Saxony criminal investigation office and the Federal Criminal Investigation Bureau has been informed about the report by phone. Experts from the German Technical Support Service established in situ in Albania that there is no immediate danger to the environment. Moreover, the export is legal. However, efforts are to be made to find a "national solution."

Greenpeace expert Andreas Bernstorff said that the toxic substances are a danger to the population. If Toepfer wants a national solution, he will have to bring the toxic freight back to Germany as quickly as possible to dispose of it here. Greenpeace has itself secured the greater part of the toxic waste against the risk of explosion and leakage. Moreover, it organized the return transport of around 1,000 kg of the pesticides. The truck will arrive in Germany in the next few days. Further return transport is not planned, however, contrary to other statements made by Greenpeace staff.

Uranium Mine Reclamation Raises Controversy

BR0403160394 Munich SUEDDEUTSCHE ZEITUNG in German 10 Feb 94 p 35

[Article by Angelika Jung-Huettl: "New Problems With a Polluted Site—The Reclamation of the GDR [German Democratic Republic]'s Former Uranium Mining Area Could Endanger a Million People's Drinking Water: A Delicate Problem"]

[Text] The GDR was once the third-largest producer of uranium in the world, surpassed only by the United States and Canada. As a result, an area half the size of the Saarland has been left devastated. Radioactivity from the former pits in the ore mining area in Saxony and Thuringia is posing a massive threat to drinking water supplies in eastern Germany.

Let us take Koenigstein, for example. Wismut GmbH mining specialists and engineers believe that the uranium, which is readily soluble, would have to be "flushed out" of the rock before the Koenigstein mine, which is situated in the Elbe sandstone range, is closed down and flooded. This, they say, would be the only way to prevent radioactive substances from finding their way into the environment in the distant future. However, Saxony's Environment Ministry in Dresden, which has to license reclamation methods,

fears that this in itself could contaminate a major groundwater stratum from which a million people in the Dresden and Pirna area draw their drinking water.

What is going on in the pit whose closure could have a serious impact on the population's living standards? Koenigstein is one of the four mines from which the Wismut Soviet-German Joint-Stock Corporation (SDAG) extracted uranium for decades without regard to the damage inflicted on the environment and the health hazards to which it exposed the population. Processing plants then turned it into "yellow cake," the raw material for the fuel elements used in east German and Soviet nuclear power stations and Moscow's atom bomb industry after the war.

The Federal Trade and Federal Environment ministries discontinued uranium mining after the unification of Germany on grounds of unprofitability. The SDAG was converted from a mining and production corporation into a reclamation firm, Wismut GmbH, and is now responsible for freeing the uranium mining area of "pollutants, soil, waterway, and air contamination, and other environmental hazards present on the operating site and in the real estate pertaining thereto."

"Actually, Koenigstein is just a small part of this comprehensive eco-repair operation, albeit a particularly delicate one," says Stephanie Hurst of Saxony's Environment Ministry in Dresden. Indeed, in order to dissolve the uranium out of the rock, the SDAG, in its day, had forced hundreds of thousands of cubic meters of dilute sulfuric acid 300 meters down into the uranium-bearing seam, which is about 20 meters thick. In order to increase the working surface for the acid solution, the rock was divided and blasted into blocks measuring about 80 by 80 meters by a height of—depending on the uranium content and the characteristics of the rock—5 to 20 meters prior to "leaching," as mining specialists call this method of mining. "Pillars" were inserted between the blocks to support the "pits." The liquor containing the uranium was collected by a drainage system and pumped to the surface, where the uranium was extracted.

There were 750,000 cubic meters of dilute sulfuric acid circulating between the leaching zone and the processing plant. There are currently about 1 million cubic meters of leaching fluid in the pores and crevices of the whole mined area of the Koenigstein pit, where it is still producing its effect.

The people in charge at Wismut intend to flood Koenigstein as well, like most closed mines. This means switching off the high-power pumps that keep the underground shafts and tunnels free of water seeping in from the neighboring rock. The mine then "drowns," as the mining specialists put it.

Flooding the Koenigstein pit will entail hazards that cannot yet be assessed, as the groundwater bearing stratum that provides Dresden and Pirna with their drinking water is only just above the stratum from which the miners have extracted uranium. It is true that the water bearing stratum is separated from the mined cavities by a 20-meter thick, water-retaining, argilliferous sandstone stratum. However, the flood water from the mine, which would be contaminated with radionuclides and other pollutants, could find its way into the drinking water and contaminate it either via the mine shafts and bores or via naturally occurring crevices and faults in the rock.

"An increase in the quantity of radioactive substances in the drinking and household water means a rise in the cancer and leukemia risk to the population," warns Munich radiobiologist Edmund Lengfelder, who is studying the impact of uranium mining in Saxony and Thuringia on health. This hazard would be reduced by keeping the mine "open." "But that would cost us 15 to 20 million German marks a year," explains Rudolf Daenecke, who is in charge of the reclamation work at Wismut GmbH. This is what the electricity to power the pumps and technical measures, such as ventilating the underground cavities, would cost.

First of all, Wismut GmbH did something that provoked accusations of fraud: After the cessation of mining work as of 1 January 1991, it blasted a number of blocks of stone in the mine, which it intends to leach using the previous mining method to flush out the pollutants. The uranium will even be processed into yellow cake and sold through EURATOM [European Atomic Energy Community]. Wismut claims that the profit will be spent on the reclamation project.

UV-Based Process for Water Purification Described

BR0303152494 Bonn DIE WELT in German 10 Feb 94 p 7

[Article by Thomas Buerke: "Light Purifies Water—UV-Lamps Can Be an Alternative to Chlorine—Pilot Plant Planned Near Bonn"]

[Text] Mankind has been able to control a number of epidemic diseases, such as cholera, by disinfecting drinking water. Chlorine has been the main agent used for this purpose for about 100 years. In the more recent past, however, scientists have acknowledged that these additives also give rise to the formation of a number of harmful by-products, such as chloroform. This was why the Federal Research Minister set up a joint research product six years ago to examine the feasibility of using ultraviolet light to disinfect drinking water, for which it provided total funding in excess of 6 million German marks. Not long ago, the multidisciplinary research team demonstrated that plants of this type can be built on an industrial scale as well.

Actually, there have been UV disinfecting plants since the beginning of the century, though only for fairly small throughputs and primarily for use with well or spring water, which is relatively untainted. The multiyear studies set out to create the technical prerequisites for an industrial-scale plant capable of purifying large volumes of water from lakes and reservoirs, where the main problem is biological contamination caused by plankton, which constitutes organic matter that subsequently reacts with chlorine to form harmful substances.

The test system was built by scientists at the Max Planck Institute of Radiation Chemistry in Muelheim. It basically comprises a UV lamp similar in shape and size to a neon tube, which is inserted into a stainless steel pipe. The water flows through the space between the lamp and the inner wall of the pipe, where it is exposed to UV radiation.

The researchers optimized their plant over long series of tests until it was possible to kill off sufficient quantities of the main bacteria and viruses. An important condition for success in this respect is that all the water in the flow pipe must be evenly exposed to uniform radiation. Moreover, researchers from the Free University of Berlin Hygiene Institute have also established that no substances that could have a mutagenic effect on human beings occur in UV-treated water.

Nevertheless, technical limitations also emerged. For example, if the water has too high an iron or manganese content, radiation precipitates these elements, which then form a thin film on the glass wall of the lamp. In extreme cases this halves the intensity of the radiation after only 500 operating hours. Care is also needed when treating water with a high nitrate content, as toxic nitrite can be formed. However, this problem can be avoided by using a special UV lamp in such cases.

A general drawback is that—unlike the procedure used with chemical additives—the water is, of course, not further disinfected in the mains after radiation, so it is possible that germs may reform there. It still has to be established whether recontamination of this type occurs or not.

Be that as it may, in certain conditions the UV method constitutes an alternative to chemical disinfection. A pilot plant will thus be set up at the Wahnbach reservoir, whose waters supply about three-quarters of a million people in the Bonn area with drinking water.

NETHERLANDS

Artificial Fossilization Eases Animal Waste Problem

BR0103095594 Rijswijk POLYTECHNISCH WEEKBLAD in Dutch 31 Dec 93 p 3

[Article by Bart Stam: "New Process for Artificial Fossilization Attacks Manure Problem"]

[Text] Eindhoven—Accelerated artificial fossilization is a technique which tackles the problem of surplus animal dung. The method is a combination of compression, electromagnetic radiation, and thermal dissection. The owner of the process, Pieke Beheer in Eindhoven, is presently trying to find interested parties for an installation which can turn an annual 60,000 tonnes of chicken feces into a carboniferous end product.

Artificial fossilization speeds up the conversion of organic materials into carbon, oil and gas. This conversion process can achieve in about an hour and a half what nature does in millions of years. This is achieved through a combination of existing techniques which have never been combined before. Pieke Beheer has patents for its process in Europe, Japan and the United States.

Homogeneous

One of Pieke Beheer's employees, engineer R. Eggink, worked together with the late W.J.H. Schippers on the development of the fossilization process. He believes that the procedure and the accompanying three-stage reactor can convert all organic materials into "Pieke Black", the patented name of the resulting carboniferous end product. "The best results are obtained with a homogeneous material such as chicken feces," according to Eggink.

In a first stage, research was focused on the conversion of domestic waste. But because domestic waste consists of extremely varied components, preference was given to organic materials such as semi-liquid manure. The University of Amsterdam researched the conversion of chicken feces into Pieke Black. "The results were encouraging," sayEggink. From the various research projects it became apparent that the manure must have a dried consistency of at least 45 percent.s

In the Pieke process, the first stage is compression. A special press reduces the feces into vacuum blocks under high pressure (280 kilograms per square centimeter). During the second stage, an industrial microwave triggers off a biochemical reaction which is needed to start the disintegration process of the feces by means of bacteria. The blocks are sent in a continuous line through the tunnel-shaped microwave, and are exposed to microwaves at three points. In the microwave, the temperature rises to about 70 or 80 degrees Celsius. The evaporating moisture is sucked out and condensed.

The third and last stage is the thermal dissection (gasification) of the feces. Before the organic material enters the reactor, it is crumbled into small pieces. The temperature of the reactor is first raised to 250 degrees, whereby a large part of the moisture evaporates. Then the dung is gasified at 480 degrees maximum. Any inorganic material in the feces is separated and collected into a special tube. The released gases are suitable for two applications; the production of electricity, or separation into oil and gas by means of condensation.

Finally, following cooling (during which the temperature drops again to 20 degrees) the desired end product, Pieke Black, is obtained. Eggink says: "Tests have shown that our product is very suitable as a filling material in rubbers and various polymers."

No Orders Yet

It seems, according to Eggink's own feasibility study, that an installation with a capacity to treat 60,000 tons of chicken feces annually, divided over two production lines, has the best chance of success both technically and commercially. Such an installation would produce 20,000 tons of Pieke Black, with a value of 1,250 Netherlands guilders per tonne. The conversion costs are 850 guilders per tonne. According to Eggink, the energy balance of the procedure is also promising, in that the installation produces more energy than it consumes, although there are considerable internal differences for the applications mentioned. "The combination of our process with the dehydration of waste material gives a higher total yield than when electricity is produced with the remaining gases."

According to Eggink, various authorities in Western Europe have shown interest in the Pieke Beheer process, though no orders have yet been placed. He is very confident, however, that orders will come: "Artificial fossilization is a valuable alternative to the present animal waste conversion installations."

UNITED KINGDOM

Report Critical of Safety Standards at Sellafield, Dounreay

PM0203143694 London THE DAILY TELEGRAPH in English 2 Mar 94 p 7

[Christine McGourty report: "Windscale Safety Below Standard"]

[Text] Serious clean-up problems remain at the Windscale nuclear reactor at Sellafield 37 years after the fire there, according to a report yesterday by the Health and Safety Commission.

"A very long programme of work" was needed to make the two reactors at the site safe, said the commission's Advisory Committee on the Safety of Nuclear Installation (ACSNI).

The report described the state of the reactors as generally unsatisfactory.

"At present they fall far below the 'as safe as reasonably achievable' criterion," it said. Great care would be needed to ensure no radioactivity was released from the reactors to the environment during the rest of the clean-up programme.

After the 1957 nuclear accident—one of the world's worst—undamaged nuclear fuel was discharged from Pile One, the military reactor where it occurred.

But the possibility of another fire still exists since 15 tons of damaged fuel remain in the core, a further five tons in the water and air ducts and the graphite core of the second reactor—known as Pile Two—still stores vast amounts of energy.

Mr. Eddie Varney, acting chief inspector of the Nuclear Installations Inspectorate, said it had been dissatisfied with the progress of safety work and had been forced to serve improvement notices on the Atomic Energy Authority (AEA), which is responsible for the site, in 1992, to speed it up.

"What was worrying us was that the piles were connected through the stacks to the atmosphere," said Mr. Varney. "We wanted air to circulate through so you could look for a fire. The authority had proposed this but was taking too long to do it."

An improved ventilation system has since been installed at Pile One, reducing the possibility of a radioactive discharge, the AEA said yesterday.

It said work was underway to remove loose fuel from air and water ducts and improve fire detection and suppression systems.

ACSNI also criticised storage facilities for nuclear waste at AEA's Dounreay site. The site has been host to research into a new type of reactor but following the withdrawal of Government funding, the prototype fast reactor (PFR) is due for closure next month.

The Dounreay fast reactor (DFR) that was used to test fuel for the prototype has already been closed down and decommissioning is underway. But ACSNI said the site was "not well provided with waste storage capacity.

"As with the DFR breeder fuel, there are no reprocessing or disposal routes identified as yet for the PFR breeder."

INTERNATIONAL

Antarctic Base Commanders Join Forces To Fight Pollution

PY2502142194 Santiago EL MERCURIO in Spanish 12 Feb 94 p C2

[Article by Punta Arenas correspondent Pilar Espinosa Ribas]

[Text] Antarctic Flotilla Commodore Jaime Urdangarin Romero on 11 February reported that the first international meeting of commanders of Antarctic bases in the South Shetland Islands was held at President Frei Base. The meeting's purpose was to reach an agreement on measures and draft a plan to combat sea pollution, especially that caused by oil slicks.

Representatives from Chile, Argentina, Uruguay, Peru, Brazil, Poland, the PRC, the ROK, Russia, and Ecuador who attended the meeting committed themselves to asking their respective governments to buy the standard antipollution material suggested by the Chilean Navy. They decided to draft a concerted action program at their next meeting.

Commodore Urdangarin stated: "All the participants acknowledged that Chile is the only country that has the ways and means to combat pollution in the Antarctica in a systematic way. We have both the qualified people and the infrastructure in the vessels of the Chilean Navy's Antarctic Patrol and the Prat Base and Fildes Port Garrison."

He underscored that this initiative was materialized by Admiral Jorge Martinez Busch, the Navy commander in chief, who had the foresight to plan for possible problems arising from the increase in sea traffic.

On that occasion, the commanders of the bases and stations in the South Shetland Islands located in Antarctica, agreed to appoint the Chilean Navy's Antarctic Patrol as the operations coordinator in case of a possible environmental disaster in the area.

At present, only the Chilean Navy has the necessary vessels, equipment, and staff to face an emergency such as this, as well as to undertake rescue operations with the Antarctic Patrol.

Korea, Japan, Russia Agree To Examine East Sea Pollution

SK1402025394 Seoul YONHAP in English 0221 GMT 14 Feb 94

[Text] Seoul, Feb 14 (YONHAP)—South Korea, Japan and Russia have agreed to jointly investigate radioactive pollution of the East Sea (Sea of Japan) by the former Soviet Union and Russia's dumping of nuclear waste, from March 15 for 31 days, the Science and Technology Ministry said on Monday.

Delegates from the three countries signed a letter on the investigation in Vladivostok, Russia, on Saturday.

According to the plan, nuclear and marine experts from the three countries will leave Vladivostok aboard a 4,000 ton-class Russian ship, the Okean, on March 15 and conduct an investigation of seven points in the East Sea for 31 days.

The experts will examine sea water, undersea soil and marine life.

Within a month after the investigation, the experts will submit a preliminary report and within a year, they will issue a final joint report.

Seven experts from Korea, nine from Japan, 15 from Russia and one from the International Atomic Energy Agency will participate in the mission, with the costs shared by the three countries.

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